

# DIABETES IN CONTROL.com Newsletter

The Newsletter for Professionals in Diabetes Care

December 20, 2006 Issue #343

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## Top Diabetes Stories:

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### Scientists Discover a New Way to Reverse Diabetes\*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4412>

### Central Obesity Increases Risk for Microalbuminuria\*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4410>

### Deadly Connection Between Diabetes and Alzheimer's and Dementia\*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4409>

### Polycystic Ovary Syndrome In Men\*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4406>

### Eating Slowly Reduces Caloric Intake by 70%\*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4404>

### Exercise Vs. Diet To Lower Type 2 Diabetes Risk\*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4403>

### Real-Time Continuous Glucose Monitoring Improves Glycemic Control\*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4399>

### Cod Liver Oil Reduces Risk for Type 1 Diabetes\*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4398>

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## From the editor's desk

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Next week there is a new movie coming out called "Marshall" and no there are not any diabetes stories in it but yours truly was there during that time. As a freshman the first year after the crash I can understand the perseverance that those players and coaches exhibited.

They had the patience to work with walk on players and freshman stars and as you will find in the movie repeated work eventually paid off.

As we come to this time if the year it is good for us all to think about the patience we had for our patients and how we refused to give up.

We at Diabetes In Control want to thank you for your support and are glad we could help in a small way to make your practices better.

Many of us worry about obesity in children and it seems as if most parents don't seem to care, but in a survey released at The Obesity Society's 2006 Annual Scientific Meeting, you will be surprised at the results. According to this study most adults think that nutrition is taught in elementary school. Find out what else they think by [clicking here](#)

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4413>

**Dr. Richard Bernstein** shares some closing points in this weeks excerpt from his book.... *Did you know that triglycerides often go up when you are losing weight?*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4414>

To ensure that you receive the **Diabetes in Control newsletter** arrives in your inbox, please add **diabetes@topica.email-publisher.com** to your Contact List, Safe List or Address Book.

### dLife TV: December 24, 7PM ET on CNBC

On the rodeo circuit with World-Champion Steer Wrestler Luke Branquinho; knowing all your numbers for good diabetes health; and dLife investigates sugar-free chocolate. Catch this encore episode of dLifeTV on: Sundays on CNBC at 7 PM ET, 6 PM CT, and 4 PM PT Check your local listings for details.

We can make a difference!

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## This week's overview:

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Item #2 Type 2's Unrealistic About Calories

Item #5: Height Loss in Older Men with Diabetes Associated with Greater Risk of Heart Disease and Death

Item #6: Alcohol, Not Flavonoids, Drops Diabetes Risk

Item #8: Sugar Not Directly Linked to Diabetes - Study

Item#11: Alternate-day Dosing of Statins in Type 2 Diabetic Patients with Dyslipidemia

Item#12: Merck' HDL Drug Not Linked to Heart Problems

Item#13: Statin Users Risk Heart Attack by Dropping Drugs or Taking Low Doses

**Check out this weeks "Test Your Knowledge" question.**

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4415>

Dave Joffe, *Editor-in-Chief*

## NEWS FLASH:

**Bristol-Myers Squibb** has been granted a worldwide license for a new DPP-IV inhibitor Saxagliptin, an investigational compound currently in Phase III development. You can add this to the other 2 DPP-IV inhibitors, Galvus and Januvia

## Tools for Your Practice: [Holiday Calorie Calculator](#)

Whenever I educate a patient, I try to get them to think about how many miles they will have to walk to be able to eat certain foods. Use the Holiday Calorie Calculator to total your holiday party calories, Christmas dinner calories, and New Year's celebration calories and see how far you must walk in steps, miles and kilometers to walk it off. Check as many holiday menu items as you wish and then see the steps and distance you must walk to walk off the holiday calories!



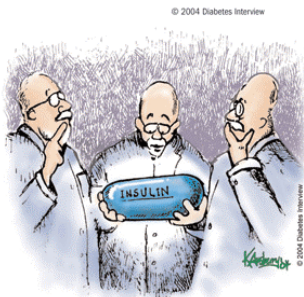
[Holiday Calorie Calculator](#)

<http://walking.about.com/library/cal/blholidaycalories.htm?nl=1>

## New Product:

**"FOUR-IN-ONE" POLYPILL** Dr Reddy's Laboratories has started first clinical trials, which could revolutionize the cardiovascular drugs market. This new pill will combine aspirin (75 mg), simvastatin (10, 20 and 40 mg), and two antihypertensives at different strengths.

*"All the medicines in this pill are no longer covered by patents, so it will be cheap to produce and more affordable for people developing countries. The medicines also treat several related conditions, and combining them may benefit people who can't afford regular visits to the doctor. The trials are due to begin early next year in India and New Zealand, with other markets due to follow later on. A full clinical trials programme for a New Chemical Entity (NCE) will not be required, according to Dr Reddy's, as the medications have been previously approved. Registration of the polypill should therefore be possible on the basis of standard equivalency testing.*



Despite the valiant efforts of the research group, the insulin suppository still had one major drawback.

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## This Week's Items:

1. **Scientists Discover a New Way to Reverse Diabetes\***  
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<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4399>
15. **Cod Liver Oil Reduces Risk for Type 1 Diabetes\***  
<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4398>

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## ITEMS For The Week:

Item 1

### **Scientists Discover a New Way to Reverse Diabetes**

*Researchers working on a "breakthrough" discovery that identifies the role of pain nerves in the cells that produce insulin have prevented and reversed diabetes in mice.*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4412>

A team of researchers has discovered a trigger for type 1 diabetes, a breakthrough that has long evaded scientists and one that could lead the way to preventing the disease.

Researchers said they learned that pain receptors don't secrete enough chemical elements found in the brain to keep insulin-producing pancreatic islets working normally. By supplying the chemical element to diabetic-prone mice, "the research group learned how to treat the abnormality ... and even reversed established diabetes," Salter said.

The team found that abnormal nerve endings in the insulin-producing cells of the pancreas initiated a chain of events that caused type 1 diabetes in mice. When they removed the nerve cells, the mice did not develop the disorder.

That means diabetes may be a disease of the nervous system, not just an autoimmune disease, said Hans Michael Dosch, a senior scientist at Toronto's Hospital for Sick Children and the study's principal investigator.

Research until now has mostly focused on the immune system and why it attacks and destroys insulin-producing islet cells. But Dosch, working with colleagues at Sick Kids, the University of Calgary and Maine's Jackson Laboratory, identified a control circuit between islet cells and their related sensory nerves. Disrupting this control circuit led to inflammation around the islets and eventually to their destruction. Without these cells, the mice could not make insulin. "This control circuit is the real cause of diabetes," said Dosch.

Experts say the findings, reported last week in the journal *Cell*, will change the way scientists think about diabetes. "It really is a breakthrough for the diabetes community," said Pam Ohashi, a professor of immunology at the University of Toronto and a senior scientist at the Campbell Family Institute for Breast Cancer Research. Dosch has immediate plans to move his research from mice to humans.

He is launching a clinical trial in January to determine if patients who have a high risk of type 1 diabetes have the same sensory nerve abnormalities. The researchers extended the studies to Type 2 diabetes. They said they believed treating the islet-sensory nerve circuits could normalize insulin resistance.

"If they do, then we have fantastic new therapeutic strategies," said Dosch, who is also a professor of pediatrics and immunology at the University of Toronto.

In the lab mice, so-called TRPV1 sensory neurons produced a specific kind of neuropeptide responsible for maintaining a healthy environment for the insulin-producing islet cells. If the balance was disrupted in any way, the immune system launched an attack on the islets, triggering type 1 diabetes. Eliminating these neurons -- or stopping their signals to the immune system -- prevented the chain of events that initiate type 1 diabetes.

Dr. Dosch added, that the discovery that nerves are involved in regulating the pancreas opens up new avenues of research. "We have a whole new target for therapy," he said. "It's always been the pancreas or the immune system. Now we have a new player."

*the journal Cell, December 14, 2006*

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Advertisement:

**Breaking News from the American Diabetes Association 66th Scientific Sessions**

Did you miss the ADA Scientific Sessions in Washington, DC? Get up to speed on the latest research and updates to current knowledge on diabetes and dyslipidemia-FREE CME Activities from the ADA Scientific Sessions are now available! Click here to access the interactive CME newsletter summary of several presentations relevant to clinical practice and the CME case-based slide and audio presentations on the real-world management of patients with diabetes and dyslipidemia recorded at the ADA meeting. Don't miss this opportunity to learn the latest clinical updates from one of the year's most critical diabetes events!

<http://www.cemedicus.com/diabetes>

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Item 2

**Type 2's Unrealistic About Calories**

*New research suggests that obese adults with diabetes often say they eat less than they actually do -- a problem that can hinder management of the disease, according to researchers.*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4411>

Their study of 21 obese men and women found that all of those with type 2 diabetes reported eating far fewer daily calories than objective tests suggested they did.

Researchers caught the erroneous reporting by using a sensitive measure of metabolic rate known as the doubly-labeled water method. All of the study participants had a stable weight, which would be maintained when the amount eaten equals the calories burned each day.

But on average, diabetic adults reported a calorie intake that was nearly one quarter lower than they would need "even for basic functions to live."

By comparison, obese study participants without diabetes reported more realistic eating habits, according to the researchers, led by Dr. Patrick Ritz.

The researchers tested the reliability of the study participants' reports on their diet by having them recall what they'd eaten over the previous three days; they then calculated each person's estimated daily calorie intake and compared that with the metabolic rate.

It's not clear why diabetics were less accurate in their food reports than their non-diabetic counterparts, according to Ritz's team. But they say doctors and dietitians should be aware of this tendency.

Honesty about eating habits is vital, as diet is a "cornerstone" of managing diabetes, the researchers point out. Doctors need to know a patient's true eating habits not only to help devise a better diet, but to figure out which eating patterns might be behind any problems in diabetes control.

*Diabetes Care, December 2006.*

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## **DID YOU KNOW:**

**Perceptions of Obesity Varies by Race:** Compared with overweight white Americans, overweight black Americans are two to three times more likely to say their weight is average -- even after they've been diagnosed as overweight or obese by a doctor, a new study finds. It's estimated that about 75 percent of black Americans are now overweight or obese. However, there's been less pressure for blacks to lose weight because of a cultural acceptance of higher body weight and heavier body shapes. *International Journal of Behavioral Nutrition and Physical Activity*

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Item 3

### **Central Obesity Increases Risk for Microalbuminuria**

*Central obesity is an independent risk factor for incident microalbuminuria in individuals with type 1 diabetes, according to the results of a randomized study.*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4410>

"Weight gain and central obesity are associated with insulin resistance, hypertension, and dyslipidemia in type 1 diabetes," write Ian H. de Boer, MD, of the University of Washington in Seattle, and colleagues from the Diabetes Control and Complications Trial/Epidemiology of Diabetes Interventions and Complications Study Research Group. "These metabolic abnormalities are risk factors for kidney disease in the general population, but data addressing the relationship of central obesity with kidney disease in type 1 diabetes are limited."

To determine whether waist circumference is associated with incident microalbuminuria and change in creatinine clearance, the investigators evaluated 1279 participants with type 1 diabetes who were enrolled in the Epidemiology of Diabetes Interventions and Complications Study, the observational extension of the Diabetes Control and Complications Trial (DCCT).

During 5.8 years of follow-up, 93 of 1105 participants with normal albumin excretion rate (AER) at DCCT closeout developed incident microalbuminuria. After adjustment for DCCT closeout age, sex, duration of diabetes, treatment group, smoking status, glycated hemoglobin (HbA<sub>1c</sub>), and AER, the hazard ratio (HR) for incident microalbuminuria that was associated with each 10-cm greater waist circumference at DCCT closeout was 1.34 (95% confidence interval [CI], 1.07 - 1.68).

After additional adjustment for levels of blood pressure and serum lipids, this increased risk was modestly attenuated. Creatinine clearance decreased by an average of 0.34 mL/minute per 1.73 m<sup>2</sup> per year during 8 years of follow-up. Faster rate of decrease in creatinine clearance was associated with increased age, conventional insulin therapy during the DCCT, smoking, and greater HbA<sub>1c</sub> level and AER at DCCT closeout, but not with waist circumference.

"Waist circumference predicts the subsequent development of microalbuminuria in type 1 diabetes," the authors write. "In contrast, no association was observed between waist circumference and change in creatinine clearance over time, further suggesting that microalbuminuria and loss of excretory kidney function may have different risk factors and pathogenic mechanisms in this population."

*J Am Soc Nephrol. 2007;18:235-243.*

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Item 4

### **Deadly Connection Between Diabetes and Alzheimer's and Dementia**

*AGEs form in the brains of Alzheimer's sufferers early in the disease process and elevated blood sugars in those with diabetes increase the formation of AGEs.*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4409>

With skyrocketing incidence rates that are expected to soar even higher in the future, *diabetes* is rapidly transforming the health landscape of the United States and other Western nations. It is no exaggeration to say that diabetes now looms as one of the most costly, destructive medical epidemics of the early 21st century.

New research suggests that those with insulin resistance or diabetes are at significantly higher risk of developing one of today's most devastating and incurable neurological disorders: *Alzheimer's disease*.

The emerging connection between diabetes and Alzheimer's is yet another compelling reason for those who value their health to address issues of impaired insulin sensitivity before it is too late. Although diabetes is an emerging epidemic, it is also wholly *preventable* and *reversible* through strategies that incorporate dietary changes, lifestyle modifications, and nutritional supplementation.

Achieving and maintaining optimal blood sugar and insulin sensitivity may thus be one of the most important steps you can take to protect yourself against an array of life-threatening conditions—including diabetes and mind-destroying dementia.

The many ways in which insulin resistance and diabetes can damage one's health are now widely recognized by most doctors. High blood sugar can damage your blood vessels and nerves, which in turn can lead to such debilitations as blindness, kidney damage, and heart disease, and eventually to an early death. However, what many mainstream physicians may not be aware of is that diabetes can also lead to the formation of damaging substances known as *advanced glycation end products*, or AGEs.

Advanced glycation end products are sugar-derived substances that form in the human body through the interaction between carbohydrates and proteins, lipids, or nucleic acids such as DNA. Once formed, AGEs adversely affect the structure and function of proteins and the tissues that contain these proteins... Recent studies have shown that both the formation and accumulation of AGEs are enhanced in diabetes. These proteins damaged by the glycation process may thus play an important role in the pathogenesis of diabetic complications—and, as we shall see, in the development of Alzheimer's disease.

Advanced glycation end products become even more destructive when coupled with free radicals formed during cellular energy production. These highly reactive agents produce oxidative stress that can cause cellular damage. Researchers now believe that oxidative stress may be involved in the formation of advanced glycation end products, which in turn may induce even more oxidative stress. In fact, most AGEs that accumulate in proteins are produced under conditions of high oxidative stress. New evidence shows that oxidative stress may be an important causative factor in both insulin resistance and type II diabetes.

Alzheimer's disease now affects more than 15 million people worldwide. With the rapid aging of society (an estimated 30 percent of the U.S. population will be 65 or older by 2050), upwards of 14 million Americans are projected to develop Alzheimer's in the coming decades.

While medical researchers have yet to pinpoint a single cause of Alzheimer's disease, they have uncovered some of the basic biochemical processes that underlie the hallmark mental changes seen in Alzheimer's.

First, Alzheimer's sufferers exhibit a marked decline in levels of acetylcholine, a neurotransmitter... that is vitally important to memory formation and retention in certain regions of the brain. Second, Alzheimer's patients

demonstrate an accumulation of harmful *beta amyloid* deposits, or *senile plaques*, in the brain. Third, brain autopsies of Alzheimer's patients show signs of significant oxidative damage induced by free radicals. Finally, new research indicates that advanced glycation end products may also initiate this dreaded condition.

A newly published review article examines the role of AGEs and oxidative stress in Alzheimer's disease. Scientists found that advanced glycation end products were present in higher amounts in the biopsied brains of patients who had died from Alzheimer's than in those who died from other causes. They also presented evidence that AGEs form in the brains of Alzheimer's sufferers early in the disease process.

Weili Xu – *Borderline Diabetes Mellitus and Risk of Dementia and Alzheimer Disease: A Population-Based Longitudinal Study* (Funders: Alzheimer's Association, Gamla Tjänarinnor Foundation, Swedish Research Council)

Rachel A. Whitmer – *Glycemic Control and Risk of Dementia in a Cohort of Patients with Type 2 Diabetes* (Funder: NIDDK/NIH)

Michal Schnaider Beeri – *Advanced Glycation Is Associated with Cognitive Impairment in Very Old Women* (Funder: NIA/NIH)

*Diabetes Care* 2006;29:2728-2729.

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### **DID YOU KNOW:**

**Hospitalization of Obese Patients More than Doubles:** Hospital stays of obese patients increased by 112 percent between 1996 and 2004, rising from 797,000 to 1.7 million, according to a new report by HHS' Agency for Healthcare Research and Quality. The federal study looked at the hospital stays of patients who were admitted for their obesity and the stays of obese patients hospitalized for other diseases. *Based on findings in Obese Patients in U.S. Hospitals, 2004, HCUP Statistical Brief # 20*

*Hospitals, 2004, HCUP Statistical Brief # 20*

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Item 5

### **Height Loss in Older Men with Diabetes Associated with Greater Risk of Heart Disease and Death**

*Men who lose 3 centimeters or more of height as they age have an increased risk of death and of coronary heart diseases events, according to a new report.*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4408>

Changes in bone, muscles and joints typically lead men and women to become shorter as they age. Although a small amount of height loss is normal and probably not associated with any disease, more significant height loss may be a sign of osteoporosis (thinning of the bones). Substantial height loss can affect breathing and digestive functions, leading to poor eating habits and weight loss, and may be associated with sarcopenia, the loss of muscle mass.

S. Goya Wannamethee, Ph.D., University College Medical School, London, and colleagues studied 4,213 men who originally enrolled in the British Regional Heart Study between 1978 and 1980. Follow-up examinations were conducted 20 years later, when the men were 60 to 79 years old. At that time, the men completed a questionnaire providing details about their lifestyle and medical history. They were asked to describe their current health status—excellent, good, fair or poor—and whether their physician had ever told them they had cardiovascular disease or a number of other conditions. Participants' height and weight were measured both at the beginning of the study and at the 20-year follow-up; they were monitored through 2004 to see if they had developed cardiovascular disease, and deaths were tracked through 2005.

Between the initial examination and the 20-year follow-up, the men lost an average of 1.67 centimeters of height. The researchers divided the participants into four groups based on how much their height changed: 1,471 lost less than 1 centimeter; 1,330 lost between 1 and 1.9 centimeters; 807 lost between 2 and 2.9 centimeters; and

605 were 3 centimeters shorter or more. During the average of five years that they were followed after that, 760 men died. Risk of death increased with height loss and was substantially higher in men who lost 3 centimeters or more—they were 64 percent more likely to die during the course of the study than those who lost less than 1 centimeter. Most of the additional deaths in men who had lost height were attributable to cardiovascular disease, respiratory disease or other non-cancer diseases. Height loss was also associated with an increased risk for coronary heart disease events, even after the researchers adjusted for prior cardiovascular disease and its known risk factors.

*Arch Intern Med. 2006;166:2546-2552.*

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Item 6

**Alcohol, Not Flavonoids, Drops Diabetes Risk**

*Greater intake of flavonoid-rich foods may not reduce the risk of diabetes in postmenopausal women, according to a new published study*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4407>

Researchers from the University of Minnesota reviewed the link in 35,816 postmenopausal women between baseline diet (reported in 1986) and incidence of diabetes (self reported five times between 1987 and 2004). Cox proportional hazards regression was used to calculate hazard ratios for categories of different flavonoids and anthocyanidins, as well as intake categories of flavonoid-rich foods such as apples, broccoli, tea and red wine.

After multivariable adjustment, flavonoid consumption was not associated with diabetes risk. However, red wine intake was inversely associated with diabetes incidence, with women who reported drinking red wine more than once per week showing a 16-percent reduced risk of diabetes compared to women who consumed red wine less than once per week. Parallel findings were reported for white wine, beer and liquor, suggesting the protective effect may not come from the flavonoids, but from some nonflavonoid constituents common to all alcohol drinks.

[\*Journal of Nutrition\* \(136:3039-45, 2006\).](#)

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[http://www.diabetesincontrol.com/annodyne/anodyne10\\_31\\_01.php](http://www.diabetesincontrol.com/annodyne/anodyne10_31_01.php)

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Item 7

**Polycystic Ovary Syndrome In Men**

*Yes, you read it correct, Polycystic Ovary Syndrome in MEN! The same without the ovaries!*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4406>

Polycystic ovary syndrome (PCOS), is one of the most common endocrinopathies. It is characterized by hyperandrogenism, hyperinsulinemia, central obesity, polycystic ovaries, and anovulation. However, some of these manifestations, including the polycystic ovaries, are neither specific for the disorder, nor found in all affected individuals.

PCOS appears to be due to one or more primary defects in the upstream gonadotropin/androgen and/or insulin pathway, with the polycystic ovaries being one of many downstream manifestations. Yet, the pathophysiology of PCOS is not completely elucidated. Since the primary defect underlying PCOS may be an upstream endocrine and/or metabolic disturbance, rather than a defect in the ovaries themselves, we hypothesize that this aberration can also arise in men and that the absence of polycystic ovaries in men with other stigmata of the disorder should not eliminate the diagnosis.

Our hypothesis is supported by the observation that a genetic susceptibility to PCOS exists, and that PCOS-type manifestations are not limited to women. Indeed, male relatives may suffer from insulin resistance, obesity, diabetes mellitus, and cardiovascular disease.

Therefore, recognition of this syndrome in men is important, since pharmacologic treatments identified for women with PCOS may alleviate metabolic problems related to insulin resistance and its sequelae in men with a similar underlying defect. We suggest that first-degree relatives of patients with PCOS should be examined not only for phenotypic features characteristic of PCOS but also for biochemical evidence of hyperinsulinemia and hyperandrogenism.

In addition to examining these individuals for obesity, the women should be evaluated for hirsutism and the men should be screened for early-onset male-pattern alopecia and excess hairiness. Serologic evaluation should include the ratio of fasting levels of glucose to insulin, a glucose tolerance test, the free testosterone level and the sex hormone-binding globulin level. Finally, both male and female first-degree relatives of patients with PCOS should be tested for the underlying molecular defect(s) of this condition, once it is identified. As new treatments for PCOS emerge, e.g. insulin-sensitizing drugs, it will be important to determine if these treatments have beneficial effects on the metabolic symptoms and complications in all afflicted patients, regardless of gender.

*Med Hypotheses. 2006 Nov 27; [Epub ahead of print]*

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**Dr. Bernstein will be doing another live teleconference call soon. If you would like to ask a question or just register for the free teleconference call, just go to [www.askdrbernstein.com](http://www.askdrbernstein.com) and register. There were over 600 people on the last call. More info at [www.diabetes911.net](http://www.diabetes911.net)**

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Item 8

**Sugar Not Directly Linked to Diabetes - Study**

*High sugar intake does not directly affect a person's insulin resistance or their subsequent risk of developing diabetes, the result of a small Irish study indicate.*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4405>

Researchers from the Royal Victoria Hospital and Queen's University, both in Belfast, carried out a trial involving 13 healthy men. The men were either put on a high sugar diet (providing 25% of their overall energy) or a diet in which sugar provided 10% of their energy. All were monitored for a six-week period.

The study found that none of the men experienced weight changes, irrespective of which group they were in. They also displayed no changes in their insulin resistance, which can be a precursor to diabetes.

"Sugar has traditionally been linked to the development of diabetes. These findings challenge that thinking and show that intakes of more than double that currently recommended do not appear to have an adverse effect on markers of diabetes risk", the researchers said.



However experts warned that while sugar in itself does not cause diabetes, it can contribute to overweight and obesity, both risk factors for diabetes.

*Diabetes, September 2006*

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**FACT:**

**Coffee Drinkers Show Lower Diabetes Risk:** Starting your morning with a cup of coffee rather than a sugar-sweetened juice, can reduce your risk for type 2 diabetes, new study suggests. Drinking a whopping seven or more cups of coffee a day could cut the risk of developing type-2 diabetes by over 40 per cent. Researchers found that among more than 12,000 middle-aged adults, those who drank four or more cups of coffee each day had a lower risk of developing type 2 diabetes than those who rarely had a cup.

*American Journal of Epidemiology, December 1, 2006.*

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<http://www.diabetesincontrol.com/ads/liposcience/dest.php>

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Item 9

**Eating Slowly Reduces Caloric Intake by 70%**

*"Put your forks down between bites." Simple yet effective, so start reminding your patients of this simple fact, of eating more slowly can help improve their diabetes*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4404>

You can maintain weight and even lose it if you eat your food slowly, according to a new University of Rhode Island study.

The theory that eating slowly means a lower food intake has been around for at least 30 years, but this study is the first to lend scientific proof to the idea.

"It started in 1972 as a hypothesis that eating slowly would allow the body time for the development of satiety, and we would eat less," said University of Rhode Island assistant professor of nutrition and food science Kathleen Melanson. "Since then it has become common knowledge, but no studies had been conducted to prove it."

Thirty college-aged women were split into two groups, the first of which was asked to eat pasta with tomato and vegetable sauce and Parmesan cheese without pausing between bites. This group averaged 646 calories in nine minutes. The second group was served the same meal, but asked to put their forks down and chew between bites, and averaged 579 calories in 29 minutes. The members of the second group reported still feeling full an hour after their meal.

"Satiety signals need time to develop," Melanson said. "Not only did the women take in fewer calories when they ate more slowly, they also had a greater feeling of satiety at meal completion and 60 minutes later, which suggests there are benefits in eating slowly."

"When we consume food more slowly, it gives our appetite control systems time to recognize and adjust to the amount of food we've consumed," said Mike Adams, author of the "Food Timing Diet." "But by eating food too quickly, we consume calories ahead of our body's ability to track our total food intake, and we don't stop after we've had enough food. Remember, it takes the body approximately 20 minutes to adjust its appetite regulation mechanisms to the food you've just eaten."

Melanson added that a measured eating speed -- especially during three daily meals -- could cause people to eat up to 210 fewer calories a day.

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Item 10

**Exercise Vs. Diet To Lower Type 2 Diabetes Risk**

*Caloric reduction and exercise-induced weight loss both substantially improve risk factors for type 2 diabetes; however, one approach does not appear to be better than the other, a study shows*  
<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4403>

"Although diet and exercise can markedly reduce the incidence of type 2 diabetes, the relative contributions of exercise training and calorie restriction to these protective effects are not known," note the researchers in the American Journal of Clinical Nutrition.

Data from the present study suggest that weight loss induced by exercise and by dieting are not different with respect to their abilities to improve glucose tolerance and insulin action, "and presumably, to lower the risk of type 2 diabetes," they point out.

To determine the differing effects of exercise and dieting on blood sugar regulation, Dr. Edward P. Weiss and colleagues from Washington University School of Medicine in St. Louis conducted a year-long study, in which they randomly assigned 46 mostly overweight, but not obese, sedentary men and women between 50 and 60 years of age to one of two weight-loss interventions -- exercise training or calorie restriction -- or to a healthy lifestyle "control" group.

According to the team, weight losses achieved by 1 year of exercise with no change in food intake or 1 year of calorie restriction resulted in significant and similar improvements in glucose tolerance and insulin action.

Weight losses achieved with either approach normalized body weight in 52 percent of the overweight men and women in the study.

"On average, participants in our study performed 60 minutes of cardiovascular exercise, such as brisk walking, almost every day of the week and this resulted in weight loss of approximately 16 pounds in 1 year," states Dr. Weiss. "Some participants performed substantially more exercise (up to 90 min/d) and had much greater weight loss (30-40 lbs)."

A caveat, Weiss said, "is that food intake must not increase when a person starts an exercise program to lose weight. Many people think that is okay to eat more food if they exercise or that they need to drink sports drinks or eat energy bars if they exercise. However, a modest increase in food intake can quickly offset the calorie-burning benefit of substantial amounts of exercise," he warned.

The findings from this study, Weiss emphasized, should not be taken to indicate that all aspects of health benefit equally from caloric restriction and exercise-induced weight loss. "For example, we recently published a paper showing that exercise provided greater benefits than caloric restriction with respect to muscle strength and cardiovascular fitness and will soon publish additional papers showing that other areas of health may benefit more from one intervention or the other."

*American Journal of Clinical Nutrition, December 2006.*

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Item 11

**Alternate-day Dosing of Statins in Type 2 Diabetic Patients with Dyslipidemia**

Alternate-day dosing of atorvastatin could be an effective and safe alternative to daily-dosing in some type 2 diabetic patients.

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4402>

An analysis was made of the effect of alternateday dosing of atorvastatin and standard once-daily dosing, based on mean low-density lipoprotein (LDL) reduction from baseline in type 2 diabetics.

Forty-four type 2 diabetics were enrolled in the study. In compliance with American Diabetes Association (ADA) and National Cholesterol Education Program Expert Panel (NCEP-III) guidelines, LDL-C<100 mg/dl was chosen as the treatment target. Patients were assigned to 10 mg atorvastatin as an initial dose every day. The atorvastatin dose was doubled every 6 weeks if the patients failed to reach the treatment target. After achieving LDL<100 mg/dl, the patients were assigned to the corresponding atorvastatin dose every other day for 12 weeks.

Thirty-three patients correctly completed the study. LDL-C decreased 39% after the every-day period and 23% after the alternate-day atorvastatin dosing period (p<0.05). The target LDL-C concentration of <100 mg/dl was maintained in 19 patients (57.6%) in the alternate-day period. None of the 33 patients showed elevations in liver enzymes or creatine kinase during the alternate-day dosing period. Alternate-day dosing of atorvastatin could be an effective and safe alternative to daily-dosing in some type 2 diabetic patients.

*Acta Diabetol.* 2006 Nov;43(3):75-8.

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## DID YOU KNOW:

**Aerobic vs. Anerobic for Patients with Diabetes:** Combining resistance training, such as weight lifting, with aerobic workouts appears to be the most beneficial for type 2 for long-term control of blood sugar control than either form of exercise alone, researchers report. For any type of exercise training lasting 12 weeks or longer, the researchers found, hemoglobin A1C levels fell by 0.8 percent. There was some evidence that combining aerobic exercise with resistance training had more of an effect than either type of exercise alone.

*Diabetes Care, November 2006.*

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Item 12

### **Merck' HDL Drug Not Linked to Heart Problems**

*There still may be hope left for a drug to come out that is targeted towards increasing HDL, the good cholesterol.*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4401>

Merck & Co. on Tuesday said its experimental cholesterol drug MK-859 raised levels of "good" HDL cholesterol by more than 50 percent in clinical trials, without raising blood pressure or causing serious cardiovascular side effects.

The drug is a member of the same class of medicines as torcetrapib, Pfizer Inc.'s high-profile experimental medicine that was discontinued earlier this month after it was linked to elevated blood pressure and a worrisome number of deaths.

Merck also told analysts at a four-hour meeting that it had high hopes for an experimental drug, MK-364, which causes weight losses by the same mechanism of action as Sanofi-Aventis', Acomplia.

**But** Merck said its drug was associated with psychiatric side effects in clinical trials.

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Item 13

**Statin Users Risk Heart Attack by Dropping Drugs or Taking Low Doses**

*Projects 5-7,000 Americans yearly suffer unnecessary heart attacks.*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4400>

Thousands of statin users – primarily older people - worldwide are suffering preventable heart attacks, simply because they are not complying with their treatment or they are taking too low a dose, according to new research.

These life-saving drugs, used to lower cholesterol levels in people at risk of coronary heart disease (CHD), can only be optimally effective if patients use them properly – and many are not.

That is the conclusion by the research team, who followed the prescription records of nearly 60,000 patients for up to 14 years.

Dr Fernie Penning-van Beest and colleagues from the PHARMO Institute, analyzed 548,084 prescriptions of statin treatment issued over the first two years of treatment in 59,094 new users in the period January 1991-December 2004, and followed the patients until their first hospital admission for heart attack, death, or the end of the study in December 2004.

The aim was to see how effective robust statin treatment was for primary and secondary CHD in the 'real world' – as opposed to in clinical trials. Their results enabled them to calculate the absolute number of avoidable heart attacks that occurred because patients had stopped taking their drugs or were not taking them consistently. They were also able to compare the preventive effects of different doses and types of statins.

Patients were divided into two groups – those at high risk of heart attack and those at intermediate or low risk, with over a fifth of patients (12,762) considered high risk. They found more than half of all patients (31,557) stopped taking statins within two years and only just over a third (20,883) were persistent users on a high or intermediate dose. Among persistent users, hospital admission for heart attacks fell by nearly a third (30%) compared to non-persistent users, in both primary and secondary prevention groups.

In the primary prevention group, admission was down from 0.52 per 100 patient years among non-persistent users to 0.42 per 100 patient years in persistent users. In the secondary prevention group it was down from 0.86 to 0.62. Among patients using the high or intermediate doses the risk reduction was as high as 40%, while a low dose reduced the risk by only 20%.

The researchers calculated that, every year, around 300 to 400 statin users have an avoidable heart attack because of sub-optimal doses or discontinuing treatment.

They believe the results are likely to be typical of Europe as a whole and of the USA, which means 7,000 to 9,000 Europeans and 5,000 to 7,000 Americans a year are suffering unnecessary heart attacks.

"What this clearly tells us," said lead researcher Dr Penning-van Beest, a research associate at the PHARMO Institute, "is that our observational study supports robust cholesterol lowering, as recommended on the basis of clinical trials. But, drugs are only really effective if they are used properly and persistently.

"Unfortunately, statins are not being used optimally, so thousands of people are having unnecessary heart attacks. Getting users to stay on statins and to use them persistently saves lives, and doctors must get over to patients the message that complying with treatment is essential."

"Ideally, to improve the population effectiveness of statin treatment, persistent drug use and the use of new, potent statins, should be encouraged." he concluded.

*European Heart Journal, Online Edition, December 14, 2006*  
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**FACT:**

**Panic Attacks are Linked to Poor Outcomes for Diabetic Patients:** There is a strong link between panic episodes and increased complications from diabetes, according to a study conducted at Group Health Cooperative. [Read and print the full news article at:](http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4416)

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Item 14

**Real-Time Continuous Glucose Monitoring Improves Glycemic Control**

*Use of real-time continuous glucose monitoring helps to improve glycemic control in patients with poorly controlled type 1 diabetes, according to new published findings.*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4399>



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Being self-conscious of wearing his new insulin pump in public, Bob pretended he was a member of the Secret Service.

"Intensive self-management with frequent self-monitoring of blood glucose (SMBG) is important in type 1 diabetes to achieve good metabolic control," Dr. Jan Bolinder, of Karolinska University Hospital Huddinge, Stockholm, Sweden, and colleagues write. "Nevertheless, many patients still experience episodes of unrecognized hypo- and hyperglycemia."

The researchers examined the effect of a new real-time glucose monitor (Guardian RT) on glycemic control in poorly controlled type 1 diabetes. The device allows users to see interstitial glucose readings (calibrated to SMBG reference values) and to set low and high glucose alarms. In addition, the monitor provides trend information on changing glucose values.

The study included 81 children (median age 14.4 years) and 81 adults (age 39.1 years). All of the subjects had adhered to intensified insulin treatment, but had HbA1c levels of 8.1% or more.

The patients were randomly assigned for 3 months to use the Guardian RT continuously (arm 1) or for 3-day periods every 2 weeks (arm 2), or to continue conventional SMBG (control).

If hypo- or hyperglycemic alarms or symptoms occurred, the subjects were asked to perform confirmatory SMBG measurements prior to corrective actions.

Overall, 156 patients completed the study. Mean baseline A1c values were 9.5%, 9.6%, and 9.7% in arms 1, 2 and control, respectively.

An association was seen between real-time CGM and reductions from baseline in A1c in arm 1 versus control at 1 month (0.6% versus 0.2%,  $p = 0.008$ ) and 3 months (1.0% versus 0.4%,  $p = .003$ ). No significant differences were found for arm 2 versus control or arm 1.

"At 3 months, 50% of the patients in arm 1 had A1c reductions of at least 1% (37% in arm 2 and 15% in control arm) and 26% had reductions of at least 2% (9% in arm 2 and 4% in control arm)," Dr. Bolinder and colleagues report.

The team notes that this is "the first randomized controlled trial to demonstrate a clinically meaningful reduction in A1c using real-time continuous glucose monitoring in type 1 diabetic patients."

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Item 15

**Cod Liver Oil Reduces Risk for Type 1 Diabetes**

Taking cod liver oil early in life appears to reduce the chances that children will develop insulin-dependent ("type 1") diabetes, by 26%, researchers report.

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4398>

The protection may possibly come from the anti-inflammatory effects of long-chain n-3 fatty acids found in cod liver oil.

"In Norway, cod liver oil is an important source of dietary vitamin D and the long-chain n-3 fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA)," according to Dr. Lars C. Stene, of the Norwegian Institute of Public Health, in Oslo, and colleagues. All these nutrients "have biological properties of potential relevance for the prevention of type 1 diabetes."

The researchers looked to see if intake of dietary cod liver oil by mothers or by children during their first year of life was tied to a lower risk of type 1 diabetes among children.

The nationwide study in Norway included 545 cases of childhood-onset type 1 diabetes and 1668 control subjects. Families completed questionnaires on the use of cod liver oil, other vitamin D supplements, and other factors.

The team found that the use of cod liver oil in the first year of life reduced the risk of diabetes by 26 percent.

No such effect was found with the use of other vitamin D supplements life or with maternal intake of cod liver oil or other vitamin D supplements during pregnancy. These results point to the fatty acids EPA and DHA as the beneficial components. "These fatty acids may influence gene expression, have anti-inflammatory effects, and have been shown to be relevant in the prevention and treatment of several chronic diseases," Stene and colleagues write.

They hope to repeat the findings in children at genetically high-risk for type 1 diabetes. If so, "cod liver oil or individual fatty acids such as DHA may be candidates for preventive intervention trials," they conclude.

Nov 2006, *American Journal of Clinical Nutrition*.

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**Quote of the Week!**

*“Little League baseball is a very good thing because it keeps the parents off the streets.”*

.....Yogi Berra

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