

DIABETES IN CONTROL.com Newsletter

The Newsletter for Professionals in Diabetes Care

August 29, 2007 - Issue #379

Top Diabetes Stories:

Consensus Statement Issued On Worldwide Standardization of HbA1c Measurement*

<http://www.diabetesincontrol.com/results.php?storyarticle=5081>

Soda Warning? High-fructose Corn Syrup Linked To Diabetes, New Study Suggests*

<http://www.diabetesincontrol.com/results.php?storyarticle=5080>

Even Low Levels of Exercise Have Major Health Benefits*

<http://www.diabetesincontrol.com/results.php?storyarticle=5079>

Use of Insulin Pen Can Save \$17,000 in Health Care Costs*

<http://www.diabetesincontrol.com/results.php?storyarticle=5076>

AACE Publishes New Diabetes Clinical Practice Guidelines*

<http://www.diabetesincontrol.com/results.php?storyarticle=5074>

Heart Attack Boosts Diabetes Risk and Diabetes Boosts Heart Attack Risks*

<http://www.diabetesincontrol.com/results.php?storyarticle=5073>

Vitamin E's Lack of Heart Benefit Linked to Dosage*

<http://www.diabetesincontrol.com/results.php?storyarticle=5071>

Diabetes Must Be Controlled Before Heart Surgery – A1c's Below 7%*

<http://www.diabetesincontrol.com/results.php?storyarticle=5070>

From the editor's desk

Often we worry about how drugs interact with diabetes medications and how food interact with diabetes medications, but do we ever stop to think about whether exercise interacts with medications **Dr. Sheri Colberg**, author of *The 7 Step Diabetes Fitness Plan: Living Well and Being Fit with Diabetes*, addresses this issue this week in *Avoid the Potential Interactions of Exercise and Diabetic Medications*.

<http://www.diabetesincontrol.com/results.php?storyarticle=5084>

The National Federation of the Blind and its diabetes division, the *NFB Diabetes Action Network* has taken aim at manufacturers and suppliers, to cause them to develop and stock devices for blind diabetes patients. In fact, since they created an *Accessibility Audit* for diabetes-related companies, many diabetes companies have sought their help. To learn the whole story [click here](#)

<http://www.diabetesincontrol.com/results.php?storyarticle=5085>

The Diabetes Cruise: We are putting together a Diabetes CE/CME cruise for medical professionals for next March, 2008. It is a 9 day cruise to the Caribbean with 20 hours of CME/CE that will teach Dr. Richard K. Bernstein's diabetes treatment methods. This is a once in a lifetime opportunity to learn from Dr. Bernstein his methods to normalize blood sugars. You will learn how to normalize blood sugars as if your patients did not have diabetes. For more information on the cruise [click here](#).

<http://www.diabetesincontrol.com/cruise.php>

Next FREE LIVE WEBCAST:

September 19, 2007, we will be having another live webcast and teleconference call with Dr. Richard K. Bernstein, who will answer questions from medical professionals and patients and it is free. Just go to www.diabetes911.net and register and ask a question if you like!

September 2, 7PM ET on CNBC

Diabetes 911 – what to do when emergencies strike—dLife's own Kerri Morrone tells her personal emergency story. Plus, remarkable rescues by diabetes dogs. And carb-conscious vegetarian cooking. Watch this exciting 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!

This week's overview:

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 Item #1: Long-Acting Insulin Glargine Significantly Lowers Free Fatty Acids
 Item #2: Diabetics Face Higher 30-Day and 1-Year Mortality After Unstable Angina
 Item #6: Diabetes Management Within Budgets Work
 Item #7: Is Cinnamon Effective in Lowering Blood Sugars?
 Item #9: Bariatric Surgery Improves Survival in Obese Patients
 Item #12: Key Hormone Protects The Obese From Diabetes
 Item #15: High Dietary Glycemic Load Increases Risk of CVD

Check out this weeks "Test Your Knowledge" question. This week's question deals with CGMS.
<http://www.diabetesincontrol.com/results.php?storyarticle=5086>
 Dave Joffe, *Editor-in-Chief*

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CE CREDITS

ARE NOW AVAILABLE FOR DM EDUCATE? , COMPREHENSIVE ONLINE DIABETES MANAGEMENT COURSE - DM Educate was created by the University of Pittsburgh, in partnership with Novo Nordisk to provide pharmacy students with the tools to meet the needs of patients with diabetes. Currently 75 colleges and universities throughout the world are registered and using the course. [Learn more here](http://www.diabetesincontrol.com/results.php?storyarticle=4904)
<http://www.diabetesincontrol.com/results.php?storyarticle=4904>

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NEWS FLASH:

Anodyne Therapy Peer-Reviewed Study Demonstrates Reduction in Pain and Pain Medication Use

TAMPA, FL - August 20, 2007 - Anodyne[?] Therapy, LLC announced today a new pain study was published in *Practical Pain Management*, a peer-reviewed medical journal for pain management specialists. [Learn more](http://www.diabetesincontrol.com/results.php?storyarticle=5087)
<http://www.diabetesincontrol.com/results.php?storyarticle=5087>

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Tools for your Practice:

AACE Publishes New Diabetes Clinical Practice Guidelines

The American Association of Clinical Endocrinologists (AACE) today announced the release of its medical guidelines for the diagnosis and management of diabetes mellitus. To print the new guidelines see this Week's Item # 10

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New Product:



Kangaroo Pump Pockets: Underwear that has a pocket for your insulin pump. If you want to conceal your pump, then check out the underwear at kangaroo Pump Pockets.
<http://www.mykpp.com/products.html>



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14. Diabetes Must Be Controlled Before Heart Surgery – A1c's Below 7%*

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15. High Dietary Glycemic Load Increases Risk of CVD

<http://www.diabetesincontrol.com/results.php?storyarticle=5069>

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ITEMS For The Week:

Item 1

Long-Acting Insulin Glargine Significantly Lowers Free Fatty Acids

The long-acting insulin glargine has lipid-lowering effects that investigators believe are independent of its effect on blood sugar, according to results of two trials presented at the 67th Scientific Sessions of the American Diabetes Association in Chicago.

<http://www.diabetesincontrol.com/results.php?storyarticle=5083>

Dr. Sherwyn Schwartz of the Diabetes and Glandular Disease Clinic of San Antonio, TX, reported on 165 type 2 diabetics assigned to glargine therapy and 182 patients to a thiazolidinediones plus pioglitazone add-on therapy for 24 weeks.

Hemoglobin A1c levels were significantly lower in the glargine group compared with the pioglitazone group. Dr. Schwartz, stated that "There was a much more favorable lipid pattern in the glargine group than in those on thiazolidinediones." "The worse the A1c level, the better the lipid-lowering effect. The biggest changes were seen in those with baseline A1c levels above 8.7%"

Glargine's effect on triglycerides was small but slightly greater compared with pioglitazone. Patients taking thiazolidinediones had greater increases in HDL cholesterol. "Overall, [the effect on] LDL cholesterol was where the action was," Dr. Schwartz said. "I think the effect on free fatty acids is independent of its effect on blood sugar."

Dr. Janet McGill, of Washington University School of Medicine in St. Louis, presented similar findings of the changes in lipid variables in 129 poorly controlled type 2 diabetics randomized to glargine as add-on therapy to metformin or sulfonylurea compared with 130 patients taking pioglitazone as add-on therapy.

Free fatty acids decreased an average of 0.6 mmol/l more with glargine than pioglitazone. The largest effects with glargine on free fatty acids were in patients taking a sulfonylurea, and the greatest effects were seen in the most poorly controlled diabetics at baseline. There was a drop of approximately 0.5 to 0.6 mmol/l in triglycerides.

Dr. McGill stated that "Metformin is pretty good at controlling lipids. Our findings lend credence to the use of insulin early in type 2 diabetes." "Insulin therapy should not be delayed. In addition to lowering blood glucose, it has a number of useful ancillary benefits, including a direct effect on lipids," she said.

"This is one more brick in the house of diabetes management."

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Can you imagine your patients walking pain free? Now you can offer them hope and treatment for their pain caused by Neuropathy. The ReBuilder(r) is an FDA approved medical device that rebuilds your nerves to stop numbness and pain, increases blood flow to your legs and feet to support the nutritional needs of these newly awakened nerves, and increases calf muscle strength to restore your mobility. The ReBuilder(r) works extremely well for patients that suffer from Chemotherapy induced Neuropathy. Click here for more info...

<http://www.diabetesincontrol.com/rebuilder/index.php>

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Item 2

Diabetics Face Higher 30-Day and 1-Year Mortality After Unstable Angina

Diabetics with unstable angina/non-ST-elevation myocardial infarction (UA/NSTEMI) or STEMI face a much higher risk of mortality within one year of their acute coronary syndrome (ACS) event than nondiabetics, a new analysis shows.

<http://www.diabetesincontrol.com/results.php?storyarticle=5082>

Risk of dying the first year after an ACS event for a diabetic patient with UA/NSTEMI is almost the same as that of a nondiabetic patient with STEMI, the authors note.

"Despite all the advances and mortality-reducing therapy that have been introduced for the management of ACS, the benefit of those is offset by the increasing number of patients who are diabetic in our population," stated senior author on the study, Dr Elliott Antman "We have two competing processes: we're actually getting better in terms of our therapies for ACS, but at the same time the diabetes epidemic is racing on. And we have evidence here that being a diabetic is associated with short- and long-term mortality, which underscores the need for urgent attention to diabetes in several regards."

At 30 days and one year, mortality was significantly higher for diabetic patients than nondiabetic patients, regardless of whether they'd experienced UA/NSTEMI or STEMI. While other studies have shown differences in mortality for diabetics vs nondiabetics, this analysis provides some of the most compelling data so far — that even patients getting the best treatments for ACS have worse outcomes. Indeed, prehospitalization, in hospital, and at discharge, diabetics were significantly more likely than nondiabetics to get guideline-recommended therapy, yet outcomes were worse.

"In addition to all the various things that we do for ACS now, we need to redouble our efforts to find improved therapies for diabetics in particular," Antman said. "That may require new drugs or entirely new approaches than we've taken in nondiabetics."

When authors compared cumulative incidence mortality curves for patients with and without diabetes and with STEMI or UA/NSTEMI, they found that while diabetics with STEMI, not surprisingly, had the highest risk of dying at one year, the risk for nondiabetics with STEMI at one year was very similar to that of diabetics who had UA/NSTEMI at baseline.

"Mortality really continues on a sharp slope for the UA/NSTEMI diabetic, indicating that our job is not done when you get the patient out of the hospital and past the first 30 days," Antman explained. "If we don't pay attention to what's happening between the end of the first month and the ensuing 11 months, those patients will be at virtually the same mortality risk as though they had come in with a more serious form of ACS — STEMI — and not been a diabetic. That's information that I don't think has been appreciated in the past."

Dr Sean M Donahoe (Brigham and Women's Hospital, Boston, MA) et al report their findings in the August 15, 2007 issue of the *Journal of the American Medical Association*.

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DID YOU KNOW:

U.S. Death Rate Hits All-Time Low: The U.S. death rate fell to a historic low in 2004 and the life expectancy at birth hit a record high, according to the National Center for Vital Statistics. Final totals for the year show 2,397,615 deaths and an age-adjusted death rate of 800.8 deaths per 100,000 people. That was 50,673 fewer

deaths than in 2003 and represented the largest single-year decline in raw death counts since 1938, when deaths fell by 69,036 from the previous year. At the same time, life expectancy at birth hit 77.8 years, continuing an increasing trend in the population as a whole and among both blacks and whites, according to the agency, part of the CDC. The "remarkable reduction in the risk of dying," the report said, "has been driven mostly by net decreases in heart disease, cancer, stroke, chronic lower respiratory diseases, and influenza and pneumonia." *National Vital Statistics Reports - Miniño AM et al. "Deaths: Final Data for 2004." NVSR 2007; 55(19)*

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You've probably heard the term "low glycemic" bandied about in the media and in discussions about weight loss. You may have even come across some food products labeled as such.

It's All About Sugar

"Glycemic" simply means "relating to sugar." The higher the glycemic impact of a food the greater and more rapid its effect on your blood sugar when you eat it. High blood sugar can sabotage your weight-management and better health efforts. Eating lower glycemic foods is definitely the way to go.

Atkins Advantage(r) nutrition bars and shakes are low-glycemic impact and substantiated by clinical testing. A controlled carbohydrate, low sugar way of eating provides you with a powerhouse of nutrients to support your health and stabilized blood-sugar levels. Click Here for more information
<http://www.diabetesincontrol.com/ads/atkins/dest.shtml>

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Item 3

Consensus Statement Issued On Worldwide Standardization of HbA1c Measurement

The American Diabetes Association, European Association for the Study of Diabetes, International Federation of Clinical Chemistry and Laboratory Medicine (IFCC), and International Diabetes Federation issued a consensus statement on the worldwide standardization of the hemoglobin A1c measurement.

<http://www.diabetesincontrol.com/results.php?storyarticle=5081>

"The hemoglobin A1C (A1C) assay has become the gold-standard measurement of chronic glycemia for over two decades," write Jocelyn Hicks, PhD, from the IFCC, and colleagues. "Anchored in the knowledge that elevated A1C values increase the likelihood of the microvascular complications of diabetes (and perhaps macrovascular complications as well), clinicians have used A1C test results to guide treatment decisions, and the assay has become the cornerstone for the assessment of diabetes care."

Contrary to popular opinion, the A1C assay may not reflect average glycemia over the preceding few months. An international study is underway to document the relationship between A1C and average blood glucose, using frequent capillary measurements and continuous glucose monitoring. When results of this study are available in September 2007, they may allow creation of a more accurate conversion algorithm.

The currently used A1C assay measures a mixture of glycosylated hemoglobins, but a new reference method developed by the IFCC measures only one well-defined glycosylated hemoglobin, which may permit more uniform standardization of A1C measurements in millimoles per mole. This new reference method cannot be used by clinical laboratories to measure A1C but is only used to standardize the A1C assay.

An A1C value of 5%, for example, would be expressed as 33 mmol/mol, and 8% would be expressed as 65 mmol/mol.

On May 4, 2007, a meeting held in Milan, Italy, gave rise to this consensus statement. All of the organizations participating in issuing this statement urged that these recommendations be implemented globally as soon as possible. Their specific recommendations are as follows:

- ?? A1C test results, including the reference system and results reporting, should be standardized worldwide.
- ?? The new IFCC reference system is the only valid basis on which to implement standardization of the A1C measurement.
- ?? Throughout the world, A1C results should be reported in IFCC units (mmol/mol), and derived National Glycohemoglobin Standardization Program (NGSP) units (%) should be calculated from the IFCC-NGSP master equation.

- ?? Provided the ongoing "average plasma glucose study" described above fulfills its a priori–specified criteria, an A1C-derived average glucose (ADAG) value calculated from the A1C result should also be reported as an interpretation of the A1C results.
- ?? In clinical guidelines, glycemic goals should be expressed in IFCC units, derived NGSP units, and as ADAG.

"We believe this agreement will further contribute to the worldwide comparability of A1C results, paralleling the progress of scientific knowledge related to the analytical and biochemical features of A1C testing," the authors conclude. "Expressing test results in scientifically correct units along with a clinically relevant interpretation of those results is not an uncommon practice (e.g., creatinine and estimated glomerular filtration rate). Consequently, clinicians will have the opportunity to convey the concept of chronic glycemia in terms and units most suitable to the patients under their care."

Diabetes Care. Sept. 2007;30:2399–2400.

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Item 4

Soda Warning? High-fructose Corn Syrup Linked To Diabetes, New Study Suggests

Researchers have found new evidence that soft drinks sweetened with high-fructose corn syrup (HFCS) cause tissue damage and may contribute to the development of diabetes, particularly in children.

<http://www.diabetesincontrol.com/results.php?storyarticle=5080>

In a laboratory study of commonly consumed carbonated beverages, the scientists found that drinks containing the syrup had high levels of reactive compounds that have been shown by others to have the potential to trigger cell and tissue damage that could cause the disease, which is at epidemic levels.

HFCS is a sweetener found in many foods and beverages, including non-diet soda pop, baked goods, and condiments. It has become the sweetener of choice for many food manufacturers because it is considered more economical, sweeter and more easy to blend into beverages than table sugar. Some researchers have suggested that high-fructose corn syrup may contribute to an increased risk of diabetes as well as obesity, a claim which the food industry disputes. Until now, little laboratory evidence has been available on the topic.

In the current study, Chi-Tang Ho, Ph.D., conducted chemical tests among 11 different carbonated soft drinks containing HFCS. He found 'astoundingly high' levels of reactive carbonyls in those beverages. These undesirable and highly-reactive compounds associated with "unbound" fructose and glucose molecules are believed to cause tissue damage, says Ho, a professor of food science at Rutgers University in New Brunswick, N.J. By contrast, reactive carbonyls are not present in table sugar, whose fructose and glucose components are "bound" and chemically stable, the researcher notes.

Reactive carbonyls also are elevated in the blood of individuals with diabetes and linked to the complications of that disease. Based on the study data, Ho estimates that a single can of soda contains about five times the concentration of reactive carbonyls than the concentration found in the blood of an adult person with diabetes.

Ho and his associates also found that adding tea components to drinks containing HFCS may help lower the levels of reactive carbonyls. The scientists found that adding epigallocatechin gallate (EGCG), a compound in tea, significantly reduced the levels of reactive carbonyl species in a dose-dependent manner when added to the carbonated soft drinks studied. In some cases, the levels of reactive carbonyls were reduced by half, the researchers say.

"People consume too much high-fructose corn syrup in this country," says Ho. "It's in way too many food and drink products and there's growing evidence that it's bad for you." The tea-derived supplement provides a promising way to counter its potentially toxic effects, especially in children who consume a lot of carbonated beverages, he says.

But eliminating or reducing consumption of HFCS is preferable, the researchers note. They are currently exploring the chemical mechanisms by which tea appears to neutralize the reactivity of the syrup. Ho's group is also probing the mechanisms by which carbonation increases the amount of reactive carbonyls formed in sodas containing HFCS. They note that non-carbonated fruit juices containing HFCS have one-third the amount of reactive carbonyl species found in carbonated sodas with HFCS, while non-carbonated tea beverages containing high-fructose corn syrup, which already contain EGCG, have only about one-sixth the levels of carbonyls found in regular soda.

In the future, food and drink manufacturers could reduce concerns about HFCS by adding more EGCG, using less HFCS, or replacing the syrup with alternatives such as regular table sugar, Ho and his associates say.

This research was reported August 23 at the 234th national meeting of the American Chemical Society, during the symposium, "Food Bioactives and Nutraceuticals: Production, Chemistry, Analysis and Health Effects: Health Effects."

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FACT:

Oral Insulin Successfully Completes Trials: This study was intended to assess both the safety/tolerability and absorption properties of Oramed's proprietary oral insulin delivery technology. The trial examined changes in insulin, glucose and C-peptide plasma concentrations over time in healthy volunteers under several differing oral dosing scenarios. With the exception of the anticipated insulin related hypoglycemic side effects, no significant adverse effects were noted after administration of Oramed's insulin gel capsule. The completion of the Phase 1 studies is expected by Mid-2008.

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Item 5

Even Low Levels of Exercise Have Major Health Benefits

New study shows that even weekly exercise below recommended levels has major health benefits. Just 30 minutes of walking three days a week has an impact.

<http://www.diabetesincontrol.com/results.php?storyarticle=5079>

In the study, a brisk 30-minute walk three days a week was enough to drive down blood pressure and improve overall fitness in a group of healthy sedentary adults.

For optimum health, adults are recommended to engage in 30 minutes of moderately strenuous exercise on at least five days of the week. But few people achieve this level of weekly activity, often citing lack of time as the reason.

Dr Mark Tully, from the University of Ulster in Northern Ireland, and colleagues designed a study to see if exercising at a level lower than the recommended one would boost overall fitness and heart health.

A total of 106 healthy but sedentary adults between the ages of 40 and 61 participated in the 12-week study. The subjects were randomly assigned a brisk 30-minute walk three days a week (44 subjects), a brisk 30-minute walk five days a week (42 subjects) or told not to change their lifestyle (the non-walking control group).

After 12 weeks, Dr Tully's team found that blood pressure and waist and hip girth fell significantly in the three-day walkers and five-day walkers. In contrast, no changes occurred in the non-walking control group.

The team said: "These results may encourage people who feel they do not have time to exercise on five days each week to consider finding time to commit to a lower weekly target of exercise."

Journal of Epidemiology and Community Health, September 2007.

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Do you have patients in pain? Over 5,000 Anodyne Therapy Care Providers in 35 countries worldwide are helping thousands of patients per month with painful, circulatory problems get relief. To learn how you can help your patients get back to life, click here.

<http://www.diabetesincontrol.com/annodyne/index.php>

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Item 6

Diabetes Management Within Budgets Work

A disease management program for patients with diabetes mellitus is associated with improved quality of care within existing budgets.

<http://www.diabetesincontrol.com/results.php?storyarticle=5078>

To assess the impact of a disease management program for patients with Type 1 and Type 2 diabetes on cost-effectiveness, quality of life and patient self-management. A study was done by organizing care in accordance with the principles of disease management, and it aimed to increase quality of care within existing budgets.

The study was from a single-group, pre-post design with 2-year follow-up in 473 patients. And the results showed substantial significant improvements in glycemic control, health-related quality of life (HRQL) and patient self-management were found. No significant changes were detected in total costs of care. The probability that the disease management program is cost-effective compared with usual care amounts to 74%, expressed in an average saving of 117 per additional life year at 5% improved HRQL.

From the results it was concluded that the introduction of a disease management program for patients with diabetes is associated with improved intermediate outcomes within existing budgets. Further research should focus on long-term cost-effectiveness, including diabetic complications and mortality, in a controlled setting or by using decision-analytic modelling techniques.

Diabet Med. 2007 Aug 2

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For the diabetic patient, it's not the cholesterol that's the problem. It's the number of LDL particles, especially small LDL particles. To see the real risk, use the NMR LipoProfile(r) test, the only test that directly measures the number of LDL particles and the number of small LDL particles - the particles shown to be more predictive of CHD events than LDL-C. Click here to learn more.

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

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Item 7

Is Cinnamon Effective in Lowering Blood Sugars?

A review of research into the healing effects of the popular spice shows mixed health results for glucose and cholesterol.

<http://www.diabetesincontrol.com/results.php?storyarticle=5077>

For most of us, cinnamon is associated with baked goods or hot apple cider. Few realize this spice, from a small evergreen tree native to Sri Lanka and Southern India, dates back to biblical times. Fewer still are aware that both common and cassia cinnamon have been observed to have pharmacological and clinical effects.

Based on pre-clinical and clinical data, common and cassia cinnamon are well known for their medicinal properties in the treatment of type 2 diabetes. In animal studies, both common and cassia cinnamon have been shown to reduce blood glucose following a glucose tolerance test, with cassia was found to be superior to common cinnamon. It has also been proposed that the antioxidant properties of common and cassia cinnamon may influence diabetic complications. In humans, three randomized controlled trials have been conducted on cassia and its effects on fasting glucose, glycosylated hemoglobin (HA1c) and lipid profile markers.

To further understand the activity of the spice, a team of naturopathic physicians and scientists decided to systematically review the scientific literature for evidence of safety, efficacy and pharmacological activity of common and cassia cinnamon. The study is entitled "From Type 2 Diabetes to Antioxidant Activity, The Safety And Efficacy Of Common (Cinnamomum Verum, C. Zeylanicum) And Cassia (Cinnamomum Aromaticum) Cinnamon Bark.

The researcher team identified all existing relevant pre-clinical and clinical medical literature that provided information regarding the safety, efficacy and pharmacology of common and cassia cinnamon. The databases they reviewed included MedLine and ten other journals.

This was in addition to individual searchers of the relevant review papers and reference lists of original research publications that were conducted by the research team. To evaluate toxicology, adverse effects and pharmacology, animal and in vitro studies were also included in the search.

The highlights of the findings included the following:

* eight studies involving humans involving the therapeutic efficacy of common and cassia cinnamon were found. One pharmacological study on antioxidant activity and seven clinical studies on various medical conditions were reported in the scientific literature, including three studies involving type 2 diabetes, and one each addressing *Helicobacter pylori* infection, activation of the olfactory cortex of the brain, oral candidiasis (fungal infection) in HIV, and chronic salmonellosis (bacterial infection found in individuals with compromised immune systems).

* common and cassia cinnamon had been investigated in animal studies for their anti-diabetic properties. Cassia cinnamon, however, had been the subject of three clinical trials while common cinnamon remained unstudied in humans.

* based on strong scientific evidence from two of three randomized clinical trials reviewed, cassia cinnamon demonstrated a therapeutic effect in reducing fasting blood glucose by 10.3 percent; the third clinical trial did not observe this effect. Cassia cinnamon, however, did not have an effect at lowering glycosylated hemoglobin.

* one randomized clinical trial reported that cassia cinnamon lowered total cholesterol, LDL cholesterol and triglycerides; the other two trials, however, did not observe this effect. There was scientific evidence that at least one species of cinnamon was not effective at eradicating *H. pylori* infection. Common cinnamon showed weak to very weak evidence of efficacy in treating oral candidiasis in HIV patients and chronic salmonellosis.

Conclusions: According to Dr. Dugoua, the lead researcher, "The studies we reviewed offered mixed results with therapeutic efficacy being demonstrated in some research efforts and not in others. This literature review has given us a clear road map for further research regarding the healing effects of cinnamon, a spice that continues to have a reputation for providing flavor and medicinal treatments."

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Dr. Philip A. Wood has written a book for healthcare professionals and students of medicine, nursing, pharmacy, and graduate studies, as well lay people interested in understanding the influences of genetics, nutrition, activity level and drugs on diseases associated with excess fat such as obesity, insulin resistance, metabolic syndrome and type 2 diabetes. The book is composed of short, readable chapters with helpful figures to further explain the mechanisms discussed. For further information please click here.

http://www.amazon.com/exec/obidos/tg/detail/-/0674019474/qid=1132176956/sr=8-1/ref=pd_bbs_1/002-7853569-1175265?v=glance&s=books&n=507846

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Item 8

Use of Insulin Pen Can Save \$17,000 in Health Care Costs

Diabetics who need to switch from oral medications to insulin could reduce their annual healthcare costs up to \$17,000 by using an insulin pen instead of a syringe to deliver their daily dose of medication.

<http://www.diabetesincontrol.com/results.php?storyarticle=5076>

A new study found that using an insulin pen may result in fewer trips to the emergency department and to the doctor's office, resulting in substantial savings to diabetics and their insurers.

"For one, there is less chance of getting the wrong dose of insulin," said Rajesh Balkrishnan, the study's senior author and the Merrell Dow professor of pharmacy at Ohio State University. "Diabetics who use syringes must carefully measure their insulin, so there is a risk of getting too much or too little."

The pen contains a pre-measured dose of insulin in a disposable cartridge. Users simply push a button on the pen, and the proper dose of medication is injected through a needle. A syringe user must extract the exact dose of insulin from a vial.

Balkrishnan and his colleagues followed more than 1,300 diabetic adults enrolled in a Medicaid program in North Carolina. Each patient had failed treatment with oral medications prescribed to control the symptoms of their disease and had begun insulin therapy. Oral drugs are typically the first course of treatment when someone is initially diagnosed with type II diabetes.

The researchers compared 1,162 patients who started insulin therapy with a syringe to 168 who began their therapy with a pen. Patients in the pen group used either the NovoPen or the FlexPen, which are both manufactured by the pharmaceutical company Novo Nordisk.

The researchers tallied all healthcare costs related to diabetes, including visits to an emergency room, hospitalizations, outpatient visits, prescription costs and costs to treat conditions related to the disease. They also collected data on insulin refill rates for each patient. Refill rates are a way of determining if patients take their medications regularly.

The numbers showed that the annual average healthcare costs were nearly \$17,000 lower insulin for pen users than for syringe users (\$14,857 vs. \$31,764.) These figures represent the average amount reimbursed by Medicaid for diabetes-related care.

Prescription costs weren't included in the above totals because the researchers wanted to show a clear difference in non-prescription costs between the two patient groups.

"The numbers suggest that the proper use of prescriptions can translate into major healthcare savings," Balkrishnan said.

According to the study's results, the cost reductions are mainly reflected by much lower total hospital costs (\$1,195 vs. \$4,965 for pen and syringe users, respectively); total outpatient costs (\$7,795 vs. \$13,103 for pen and syringe users, respectively); and total diabetes-related costs (\$7,324 for pen users vs. \$13,762 for syringe users.) Diabetes-related costs include treatment for conditions related to the disease, such as vision problems like diabetic retinopathy, foot ulcers and circulatory problems that could possibly lead to limb amputation.

Annual prescription costs were also lower for insulin pen users in this group – \$6,122 vs. \$7,465 for syringe users.

The researchers found that roughly the same number of insulin pen and syringe users took their medication as directed, with 53 percent of the pen users taking their medications properly and about 50 percent of syringe users doing so.

"While these rates are low, they are usually what we find in Medicaid populations," Balkrishnan said. "In a privately insured population we typically see rates above 90 percent. But historically, patients insured by Medicaid are often subjected to both poor medication management and administration – this is usually a result of the overall care that Medicaid patients receive."

In a separate experiment, the researchers compared more than 1,100 diabetic patients who were already on insulin when the study started. Half of the patients switched from using a syringe to using a pen during the course of the study, and the rest of the patients continued using a syringe.

Results of this experiment showed that the annual healthcare costs of pen users were only slightly higher than those of syringe users (\$11,476 vs. \$10,755.)

"This is likely due to starting a new, more expensive therapy," Balkrishnan said. "Also, patients using the pen were probably more compliant with their therapy; that is, they took it like they were supposed to. That means refilling their prescriptions often, which would initially reflect in higher costs."

Prescription costs for the syringe were lower than those for the pen (\$535 vs. \$670), and the cost of a pen itself was higher than the cost of a syringe (\$840 vs. \$0.)

"While the pen is initially more expensive than the syringe, in the long run it could considerably reduce overall healthcare costs," Balkrishnan said.

the journal Clinical Therapeutics, Sept 2007

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FACT:

New FDA Approval of Fenofibrate in 120mg and 40mg. Strengths: LifeCycle Pharma received FDA approval for it's new strengths of fenofibrate for the treatment of hyperlipidemia and hypertriglyceridemia. Available by the end of 2007

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<http://www.pharmacy.pitt.edu/dmeducatece>

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Item 9
Bariatric Surgery Improves Survival in Obese Patients

Bariatric surgery in obese patients is linked to a reduction in overall mortality, according to the results of a prospective, controlled cohort study.

<http://www.diabetesincontrol.com/results.php?storyarticle=5075>

"Obesity is associated with increased mortality," write Lars Sjöström, MD, PhD, and weight loss improves cardiovascular risk factors, but no prospective interventional studies have reported whether weight loss decreases overall mortality. In fact, many observational studies suggest that weight reduction is associated with increased mortality."

Of 4047 obese subjects enrolled in the Swedish Obese Subjects Study, 2010 underwent bariatric surgery and 2037 received conventional treatment. The primary outcome measure was overall mortality during an average follow-up of 10.9 years, with a follow-up rate of 99.9%.

During the period in which weights were recorded (up to 15 years), average weight change in control subjects was less than $\pm 2\%$. In the surgical group, maximum weight losses occurred after 1 to 2 years: 32% for gastric bypass, 25% for vertical-banded gastroplasty, and 20% for banding. Weight loss from baseline stabilized in these groups after 10 years at 25%, 16%, and 14%, respectively.

In the control group, there were 129 deaths, compared with 101 deaths in the surgery group, yielding an unadjusted overall hazard ratio (HR) of 0.76 ($P = .04$). After adjustment for sex, age, and risk factors, the HR was 0.71 ($P = .01$).

The most frequently observed causes of death were myocardial infarction, occurring in 25 subjects in the control group and in 13 subjects in the surgery group, and cancer, occurring in 47 vs 29 subjects, respectively.

"Bariatric surgery for severe obesity is associated with long-term weight loss and decreased overall mortality," the authors write. "Further studies are needed to elucidate the mechanisms through which bariatric surgery leads to decreased mortality."

In an accompanying editorial, George A. Bray, MD, from the Pennington Biomedical Research Center at Louisiana State University in Baton Rouge, notes that another study in the same issue shows that weight loss saves lives in obese patients.

"Has the time come to reconsider BMI guidelines for bariatric surgery?" Dr. Bray writes. "In addition to the improvement in the risk of diabetes, the reduction in deaths from cancer may also argue in this direction.... Thus, the question as to whether intentional weight loss improves life span has been answered, and the answer appears to be a resounding yes."

N Engl J Med. 2007;357:741-752, 818-820.

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Item 10

AACE Publishes New Diabetes Clinical Practice Guidelines

The American Association of Clinical Endocrinologists (AACE) today announced the release of its medical guidelines for the diagnosis and management of diabetes mellitus.

<http://www.diabetesincontrol.com/results.php?storyarticle=5074>

The new publication represents the most up-to-date and comprehensive diabetes management guidelines available. The Guidelines consider the clinical management of blood glucose, blood pressure, and abnormalities of lipid metabolism, and also address the prevention of diabetes and the prevention and treatment of diabetic complications.

Dr. Richard Hellman, MD, FACP, FACE, President of AACE, said it is important to point out that the guidelines are among the first clinical guidelines that focus on the issue of patient safety. The guidelines include evidence-based models for improving patient outcomes in the clinical setting. "These guidelines are the first that specifically point to how best to protect the patient with diabetes against mistakes and misjudgments by all those who directly or indirectly impact their diabetes care, including themselves," said Dr. Hellman. "The emphasis on patient safety is a first in diabetes guidelines and we expect it will become a necessary part of all future diabetes guidelines. Patient safety is not a given. A system must be properly designed to reach the goal of acceptable levels of patient safety."

The Guidelines address both type 1 and type 2 diabetes, diabetes during pregnancy, and other situations. The Guidelines are intended for all physicians and health care providers who manage patients with diabetes, including primary care physicians, cardiologists, endocrinologists, and other medical specialties. The Guidelines run 66 pages and have more than 500 citations to the medical and scientific literature, and carefully evaluate the quality of the data in those references to ensure that the recommendations are "evidence-based" and not simply qualitative or based on the opinions of a few experts.

Today, more than 18 million Americans are living with type 2 diabetes. In an April 2007 report, AACE showed that three out of five are living with one or more serious complications. The Centers for Disease Control (CDC) estimates the annual cost of treating diabetes in America is \$132 billion. Another \$23 billion is spent annually treating the complications associated with diabetes.

"There is an urgent need for all physicians to raise their index of suspicion and implement better screening of at-risk populations and individuals," said Helena Rodbard, MD, FACP, MACE, Task Force Chair and Past President of AACE. "By the time they are diagnosed for the first time, patients have already had the condition for an average of 10 years, and 50% of newly-diagnosed patients with type 2 diabetes already have one or more complications, not infrequently something as severe as a heart attack. All physicians need to do a better job of identifying the patients with the pre-diabetic state, and intervening with intensive lifestyle modifications as early as possible."

Dr. Rodbard explained: "In recent years, the number of types of therapy for diabetes has increased dramatically, with several new classes of medications and several new types of insulin analogs. These medications are commonly used - and needed - in combination. Accordingly, the task for the physician has become considerably more challenging because of the huge number of combinations and options for therapy. These Guidelines will help physicians provide more effective care with improved safety, customized to the individual patient rather than following an oversimplified 'cookbook approach' or algorithm."

"The legacy of these Guidelines will not be just the overall excellence of the information, but what is new about them," said Dr. Hellman. "The focus on reducing medical errors, whether they are from the provider or patient, is new. So is the emphasis on focusing on patient safety issues and the understanding that changing the system of care, creating a 'culture of safety,' and emphasizing coordination of care is an essential part of modern diabetes care. I am confident that these guidelines will prove to be a model for plans of care in the future that will center on improved patient safety, as a goal that must be planned for and worked on, so we can be sure when we measure outcomes that our patients with diabetes receive the most effective and safest care possible."

The Guidelines are published in a special supplement to the May/June 2007 issue of *Endocrine Practice*, a peer-reviewed journal of AACE and is also available on the AACE Web site, at:

<http://www.aace.com/pub/pdf/guidelines/DMGuidelines2007.pdf>.

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Item 11

Heart Attack Boosts Diabetes Risk and Diabetes Boosts Heart Attack Risks

Heart attack patients are up to four-and-a-half times more likely to develop diabetes compared with the general population and more than 15 times more likely to develop high blood sugar.

<http://www.diabetesincontrol.com/results.php?storyarticle=5073>

"Having a heart attack means that the chances of getting diabetes later are increased," said Dr. Lionel Opie, director of the Hatter Cardiovascular Research Institute at the University of Cape Town, South Africa, and author of an accompanying journal editorial. "We already know that diabetes predisposes one to heart attack, now we add that heart attacks predispose one to diabetes -- one nasty disease leads to another, and it's a two-way process."

In the study, a team led by Dr. Roberto Marchioli, from the Laboratory of Clinical Epidemiology of Cardiovascular Disease, Consorzio Mario Negri Sud, Chieti, Italy, collected data on almost 8,300 Italian patients who had suffered a recent heart attack and were not previously diabetic.

More than three and a half years after the heart attack, a third of the patients had developed diabetes or had impaired insulin resistance (a precursor to diabetes), as measured by an increase in blood sugar.

When they used a lower threshold for measuring blood sugar, 62 percent of the patients were defined as diabetic. "These findings further tie the knot between heart attacks and high blood glucose -- each is a risk for the other, the patient thus potentially being caught in a fatal vicious circle," Opie said.

Risk markers for diabetes or high blood sugar include age, high blood pressure, and use of heart medicines such as beta-blockers, cholesterol-lowering drugs, and diuretics.

The researchers found being overweight increased the risk of diabetes. Smoking also increased the risk by 60 percent. In addition, an unhealthy diet and heavy drinking increased the risk of developing diabetes after a heart attack.

"Lifestyle factors can be particularly important in preventing disease," Marchioli said. "The reductions in risk associated with a Mediterranean-type diet suggest that diet could help reduce incidence of pre-diabetes and diabetes after a [heart attack]," he added.

Opie agreed that changing diet and exercising can help cut post-heart attack diabetes risk.

"Once you have had a heart attack, watch for new diabetes -- monitor blood sugar and keep exercising a lot," Opie advised. "This 'eats up' the blood sugar. And eat Mediterranean-style, adding olive oil and nuts -- the Mediterranean diet gives some, but not total, protection from new diabetes after a heart attack."

The Lancet, August 25, 2007.

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DID YOU KNOW:

AACE Publishes New Diabetes Mellitus Clinical Practice Guidelines: The American Association of Clinical Endocrinologists (AACE) today announced the release of its medical guidelines for the diagnosis and management of diabetes mellitus. The new publication represents the most up-to-date and comprehensive diabetes management guidelines available. The Guidelines consider the clinical management of blood glucose, blood pressure, and abnormalities of lipid metabolism, and also address the prevention of diabetes and the prevention and treatment of diabetic complications. For more information see this Week's Item #10

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<http://www.diabetesincontrol.com/surveys/index.php>

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Item 12

Key Hormone Protects The Obese From Diabetes

The "world's fattest mice" can overeat without developing insulin resistance or diabetes thanks to a glut of a key hormone, a dichotomy that helps explain why not all obese people are diabetic, a UT Southwestern Medical Center researcher has found.

<http://www.diabetesincontrol.com/results.php?storyarticle=5072>

Consuming excess calories usually spurs insulin resistance and diabetes. But in a multicenter study appearing online in the Journal of Clinical Investigation, scientists show how an abundance of adiponectin, a hormone that controls sensitivity to insulin, and a lack of leptin, a hormone that curbs appetite, enables mice to store excess calories in fat tissue instead of in liver, heart or muscle tissue -- places where excess fat can lead to inflammation, diabetes and heart disease.

The mice get morbidly obese, but are insulin-sensitive with normal blood-glucose levels.

"The message isn't that it's good to be obese, but that expanded fat mass, when stored in the right places, can help prevent diabetes and reduce the risk of heart disease," said Dr. Philipp Scherer, professor of internal medicine and the study's senior author. "In fact, these are the first mice to directly show that fat-mass expansion has antidiabetic effects." Dr. Scherer directs the Touchstone Center for Diabetes Research at UT Southwestern.

Fat tissue, which was largely perceived as a useless storage bin until the early 1990s, has been found to release hormones, including adiponectin, that play integral roles in metabolism and obesity. Adiponectin levels decline as a person accumulates more fat, making the levels a good predictor of future risk of developing diabetes, heart disease and cancer, said Dr. Scherer, who discovered the hormone in 1994.

But what would happen if, despite overeating, adiponection levels increased? To find out, Dr. Scherer and other researchers in this study genetically engineered mice to produce an overabundance of adiponectin while lacking leptin. Without leptin's signals to stop eating or burn energy, the mice continually consumed food and their weight ballooned.

The high levels of adiponectin, however, made the mice physiologically skinny, Dr. Scherer said.

"The continual firing of adiponectin generated a 'starvation signal' from fat that says it is ready to store more energy," he said. "The mice became what may be the world's fattest mice, but they have normal fasting glucose levels and glucose tolerance.

"This indicates that the inability to appropriately expand fat mass in times of overeating may be an underlying cause of insulin resistance, diabetes and cardiovascular disease."

This discovery also suggests that in people who have low adiponectin levels fat cells don't send the signal that they're ready to accept fat, Dr. Scherer said. Instead, the fat is stored in dangerous places -- liver, heart and muscle tissues -- where it can cause inflammation and pave the way for disease.

"More than 66 percent of American adults are overweight or obese, so most people have excess caloric intake. We need to find ways to deposit these calories in the least harmful places, because the fat has to go somewhere," he said. "For instance, people with excess weight around their abdomen run a higher risk of heart disease and diabetes than those who have excess weight in the thighs."

Dr. Scherer's next goal is to investigate how to manipulate individual areas of fat to find ways to maximize the "good" fat areas and shrink the "bad" areas. Researchers also could try to develop new disease treatments that don't require shedding fat.

"Until then, exercise and reduction of food intake are the best ways to stay healthy," Dr. Scherer said.

Kim J-K et al. "Obesity-associated improvements in metabolic profile through expansion of adipose tissue." J Clin Invest 2007. 21.

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Item 13

Vitamin E's Lack of Heart Benefit Linked to Dosage

The reported failure of vitamin E to prevent heart attacks may be due to underdosing, according to a new study by investigators at Vanderbilt University Medical Center.

<http://www.diabetesincontrol.com/results.php?storyarticle=5071>

The findings, suggest that these earlier studies all had a fundamental flaw – the doses used weren't high enough to have a significant antioxidant effect. In fact, no studies have ever conclusively demonstrated the dose at which vitamin E can be considered an antioxidant drug, the researchers report.

Oxidant injury, or oxidative stress, occurs when highly reactive molecules called free radicals attack and damage cellular proteins, lipids (fats) and DNA. Free radicals, which are byproducts of normal metabolism, are produced in excess in certain disease states, including heart disease.

Epidemiological data and animal studies suggested that antioxidant compounds like vitamin E, vitamin C and beta-carotene might offer some protection against heart attack in individuals at risk. But subsequent controlled clinical trials of vitamin E – which showed little to no benefit from the vitamin – stymied that hope.

"Multiple human trials looking at the effect of vitamin E supplementation on coronary events and atherosclerosis have all failed," said Jack Roberts, M.D., the T. Edwin Rogers Professor of Pharmacology, professor of Medicine, and lead author on the study.

"We're talking about trials that examined quite high doses," added Jason Morrow, M.D., F. Tremaine Billings Professor of Medicine & Pharmacology and chief of the Division of Clinical Pharmacology. "Short of a couple of studies, there was no benefit in terms of prevention of cardiovascular events and deaths."

These results caused many to discount vitamin E supplementation as a cardioprotective treatment, but Morrow and Roberts suspected that the studies had been poorly designed. All of the trials simply gave a dose of vitamin E and looked for end points such as heart attack occurrence. But Morrow and Roberts found a critical piece of information missing.

"All of these studies were designed in a way that they never assessed the ability of the dose of vitamin E tested to effectively reduce oxidant stress," Morrow said. Without determining whether the dose of vitamin E given was exerting sufficient antioxidant effects, the previous clinical trial results were flawed, the researchers said.

In the new study, Morrow and Roberts determined the optimum antioxidant dose of vitamin E using an assay they developed to measure compounds formed by oxidative stress processes, called F2-isoprostanes. This measure, said Roberts, "has been independently validated as the best measure of oxidative stress status in vivo." The researchers first determined how long it took for a very high dose of vitamin E – 3200 IU/day – to suppress oxidative stress in individuals at risk for cardiovascular disease.

To their surprise, it took 16 weeks for this dose – which is more than 100 times the recommended daily intake and about four times higher than doses used in most previous clinical studies – to maximally suppress F2-isoprostane formation. In another group with similar cardiovascular risk factors, the researchers administered varying doses (0, 100, 200, 400, 800, 1600, and 3200 IU/day) over the 16-week period to find the minimum effective dose.

They found that it was necessary to give at least 1600 IU per day to cause a significant reduction in oxidative stress – twice that used in some of the previous clinical trials.

"It was clear that large doses – and doses in excess of what all clinical studies had used – were necessary," Morrow said. "Even with this massive dose of vitamin E, you only observe a 50 percent reduction in F2-isoprostanes," added Roberts. "So in my opinion, vitamin E is not the spiffy antioxidant everybody thinks it is – it's a pretty poor antioxidant."

Because the long-term safety of such high doses is unknown, "we are not touting taking vitamin E in large doses," Morrow said. "We are saying that, in the design of clinical trials, one needs to have good surrogate biochemical markers."

Based on their findings, the investigators suggest that measures like F2-isoprostane measurement should be incorporated into any future studies of antioxidants in atherosclerosis prevention.

And since oxidative stress has been linked to numerous other diseases, including Alzheimer's disease, Morrow suggests that F2-isoprostane measurement "really ought to be incorporated into studies assessing disease prevention by antioxidants in general."

Published early online in Free Radical Biology and Medicine

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FACT:

Diabetes diagnoses rise in California's adults: The number of adults in California diagnosed with diabetes rose from 1.5 million in 2001 to 1.8 million in 2005, with Native Americans, Latinos and Asians showing the biggest increases. Overall, a report released Wednesday found that 7% of California adults were diagnosed in 2005 with the chronic disease and experts estimate that the actual numbers are higher by as much as one-third because Type 2 diabetes, the most common type of the disease, can go undiagnosed for years. The survey was based on data from the California Health Interview Survey,

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Item 14

Diabetes Must Be Controlled Before Heart Surgery – A1c's Below 7%

Diabetic patients undergoing heart bypass surgery can markedly reduce their risk of serious complications by keeping their blood sugar levels in check before the operation.

<http://www.diabetesincontrol.com/results.php?storyarticle=5070>

The study focused on how well patients controlled their hemoglobin A1c (HbA1c) levels, a measure of long-term blood sugar control.

Lead author Dr. Diego Lowenstein, of the Favaloro Foundation, in Buenos Aires stated that, "Every patient should have the HbA1c tested before the intervention."

"It might even be advisable to delay the surgery until the HbA1c is at least below 7 percent," he added.

An HbA1c level of 4 percent to 6 percent is typically considered normal, although the range can vary depending on the laboratory doing the testing.

Lowenstein, Dr. Maximo Santos and colleagues studied 56 diabetic patients undergoing heart bypass surgery. Thirty-five patients (62.5 percent) had a preoperative HbA1c level higher than 7 percent.

The researchers found that the higher the value of HbA1c, the higher the risk of complications. The researchers calculated that each percentage point increase in HbA1c level was linked to a 1.7-fold increased risk of major complications, such as overwhelming infection, stroke, and in-hospital death.

Despite the relatively small number of patients, the study suggests that heart surgeons should take HbA1c into account, the investigators believe.

"It is a cheap test, and if your patient has a high HbA1c level you can reduce his surgical risk in less than 2 months. It is well worth the delay," Lowenstein concluded.

Argentine researchers reported at the XXXII Argentine Congress of Cardiology.

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Item 15

High Dietary Glycemic Load Increases Risk of CVD

The glycemic load of a diet influences the risk of cardiovascular disease (CVD), particularly in people who are overweight and obese.

<http://www.diabetesincontrol.com/results.php?storyarticle=5069>

"Rapidly absorbed carbohydrates that induce high postprandial glucose and insulin responses have a high glycemic index," Dr. Joline W. J. Beulens and associates explain in their report, published in the Journal of the American College of Cardiology for July 3. "Glycemic load represents both quantity and quality of carbohydrates and is calculated as the product of glycemic index of a specific food and its carbohydrate content."

Dr. Beulens and her team at University Medical Center Utrecht in the Netherlands, prospectively followed more than 15,000 women ages 49 to 70, enrolled between 1993 and 1997. All were free of diabetes or CVD at baseline, when they completed food-frequency questionnaires for the previous year.

During an average of 9 years of follow-up, 556 cases of coronary heart disease and 243 cases of cerebrovascular accident were documented.

After adjusting for traditional risk factors and fat intake, the hazard ratio for CVD for the highest quartile of glycemic load compared with the lowest was 1.47 (p for trend = 0.03).

However, the association between glycemic load and CVD risk was "virtually absent in normal weight women." The increased risk of CVD manifested only among women who were overweight or obese, for whom the hazard ratio was 1.78 (p for trend = 0.04).

Further analysis showed that carbohydrate intake itself was not associated with CVD. "Therefore, our results specifically reflect the carbohydrate quality of the diet and not the carbohydrate intake itself," Dr. Beulens and colleagues indicate.

Dr. Frank B. Hu, from Harvard Medical School in Boston, explains that glycemic index ranks food based on increases in blood glucose, which is based primarily on rate of digestion and speed of carbohydrate absorption.

Foods with "more compact granules" and "high levels of viscose soluble fiber," as well as whole-grain products, have lower glycemic index values, he writes. Blood glucose response is determined not only by the glycemic index of food, but also by glycemic load, that is, the quantity of carbohydrates in food.

Dr. Hu suggests replacing refined grains and sugar with unsaturated fats and/or protein and whole grains. He also emphasizes the importance of reducing glycemic load by restricting consumption of sugar-sweetened beverages. Estimates suggest that sugary drinks currently compose 8% of total energy intake in the US diet.

Making these changes "can help prevent CVD and improve overall health, and, as such, should be considered a public health priority," he concludes.

J Am Coll Cardiol 2007;50:14-24.

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Quote of the Week!

Two rules of thumb for nutrition:

“ Whatever was not a food a hundred years ago is not a food now” and “If it comes through the car window, it isn’t food.”

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