

DIABETES IN CONTROL.com Newsletter

The Newsletter for Professionals in Diabetes Care

November 22, 2006 Issue #339

Do you have patients who use a shallow angle infusion set? They are eligible for our latest study. Check it out below. Now accepting 90° set users also

Top Diabetes Stories:

Obese Kidney Transplant Patients Twice As Likely To Die In The First Year*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4333>

Panic Attacks Exacerbate Diabetes Symptoms*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4332>

Ruboxistaurin Reduces Vision Loss*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4330>

Diabetes and Metabolic Syndrome Treated with Malaria Drug*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4328>

Alpha-Lipoic Acid Improves Diabetic Neuropathy*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4326>

Novartis's Diabetes Drug Galvus Will Be Delayed*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4324>

Fasting Glucose Increases in Older Adults With Hypertension Regardless of Treatment Type*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4323>

Risk of Diabetes Reduced by 58% With Active Counseling and Continues*

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4319>

From the editor's desk

November is National Diabetes Month:

Last week I had an opportunity to review the results from the PREDICTIVE Study and found that there is strong evidence that Levemir© can make a difference in patients A1c and weight. To take a look at the details, [click here](http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4334)
<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4334>

Lindsey Lawton, Doctor of Pharmacy Candidate, University of Florida College of Pharmacy just finished reading and reviewing a new book by **Laura Plunkett**, The Challenge of Childhood Diabetes: Family Strategies for Raising a Healthy Child. This new book written from a mom's perspective is a must read for parents and professionals alike. To find out why **Dr. Lawton** rates this book so highly, [click here](http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4335)
<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4335>

Once you decide on a target weight, a time frame for losing the weight is the key to success according to **Richard K. Bernstein, M.D., F.A.C.E., F.A.C.N., C.W.S.** This week he helps you learn how to Establish a Timeframe for Success.
<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4336>

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.

November 27, 7PM ET on CNBC

Diabetic neuropathy explained with Dr. Aaron Vinik; how to recognize and prevent the little known complications of diabetes; foot care products that will keep you on your toes; and Mother Love's visit to the podiatrist. Tune in to dLifeTV on CNBC at 7:00 PM ET, 6:00 PM CT, and 4:00 PM PT. Check your local listings for details.

We can make a difference!

This week's overview:

- Item #3: Diabetes Drug Reduces Cardiovascular Risks
- Item #5: New Study Weighs Benefits of Exercise, Diets
- Item #7: Enriched Bread Reduces Energy Intake and Increase Feeling of Fullness
- Item #9: WelChol Improves Glycemic Control and Cholesterol in Uncontrolled Type 2's
- Item#12: Diabetes Set to Wipe Out Whole Ethnic Populations by End of Century
- Item#13: Rimonabant (Accomplia) to Treat Obesity and Improve Glycemic Control Approved in Mexico
- Item#14: Weight Loss Improves Glucose Tolerance in Nonobese, Healthy Adults

Check out this weeks "Test Your Knowledge" question.

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4337>

Dave Joffe, *Editor-in-Chief*

NEW STUDY:

Infusion sets- If you or your patients are currently using a shallow angle infusion set then we have a new product for them to try. [Click here to get more information.](#)

Now accepting 90° set users.

<http://www.diabetesincontrol.com/studies/insite.php>

NEWS FLASH's:

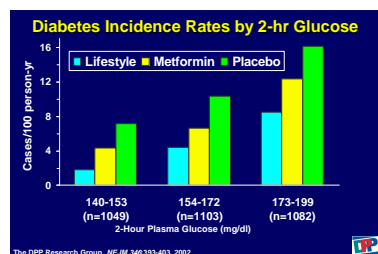
Novartis's Diabetes Drug Galvus Will Be Delayed: A U.S. decision on approving Novartis AG's key diabetes drug Galvus has been delayed by three months after the firm asked the Food and Drug Administration to consider new clinical trials data. See This Week's Item#10

TAMIFLU WARNING: The FDA noted that there were reports of self-injury and delirium with the use of Tamiflu in patients with influenza. The warning was based on postmarketing reports (primarily from Japan) suggesting that patients with influenza receiving oseltamivir, particularly children, may be at increased risk for self-injury and delirium. <http://www.fda.gov/medwatch>

LifeScan Recalls Certain OneTouch UltraSmart Meters Due To Leaky Batteries: If your meter serial numbers begin with TC, TD, TF or TG call 1-866-621-4845

Tools for Your Practice:

[Slide Sets for Professionals](#)



These slide sets are provided as a service to health professionals and scientists who are frequently called upon to give presentations to patients or colleagues on diabetes and its complications. Each presentation includes speaker notes to guide the presenter through the slide show. Complete slide sets are available on the Diabetes Prevention Trials, Oral Meds, Neuropathy, Nephropathy, and Retinopathy.

[Slide Sets for Professionals](#)

<http://www.diabetes.org/for-health-professionals-and-scientists/slide-sets-professional.jsp>

New Product:

GlucoTEL Blood Glucose Monitor

The **GlucoTel** is the first meter to support Bluetooth wireless technology.

The world's first blood glucose meter that can wirelessly transmit your blood glucose test results. Your data will be transmitted using your cell phone. If you have your cell phone within about 15 meters [50 feet] of the GlucoTel, your readings will be on the server within seconds. From there the secure servers can automatically send the data to a doctor's office, to a concerned parent or to anyone else who needs to know. Messages can be returned, too. For example, your doctor or diabetes educator can instantly send messages back to you through the built-in message center. You can also have your cell phone read the results out loud. Expected FDA approval this year. Provides results in 10 seconds and uses 0.65 microliters of blood and the cost is less than 40 dollars with the strips costing 25 dollars for 50.



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This Week's Items:

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ITEMS For The Week:

Item 1

Obese Kidney Transplant Patients Twice As Likely To Die In The First Year

Six per cent of patients with a BMI of more than 30 died in the first year after transplant, compared with three per cent of patients with a BMI of less than 30.

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4333>

According to a new study of over 2000 patients, survival and successful kidney transplant rates are significantly lower when people are obese.

A team of experts from across the Netherlands studied the medical profiles of 4,245 adults who had received kidney transplants, using data from the Netherlands Organ Transplantation Registry. They discovered that six per

cent of patients with a BMI of more than 30 died in the first year after transplant, compared with three per cent of patients with a BMI of less than 30.

By year five, the difference was even greater, with an 81 per cent survival rate for the obese patients and an 89 per cent survival rate for patients who were not obese. The same pattern emerged when they looked at the success of the transplant itself. A year after the transplant was carried out, 14 per cent of obese patients had experienced a transplant failure, compared with eight per cent of non obese patients.

After five years, 71 per cent of obese patients still had a successfully transplanted kidney, compared with 80 per cent of the patients with a lower BMI. Obese patients were more likely suffer transplant failure through infection or permanent non-functioning, but the numbers for obese and non-obese patients were both fairly low.

There were no significant differences between the two groups when it came to why patients died, but there was a trend for obese patients to suffer more infections and fatal heart conditions.

"It's estimated that 60 per cent of renal transplant candidates in the United States and 10 per cent in the Netherlands are obese or overweight. "These figures have been rising consistently in recent years.

The study - which was carried out by Nephrology specialists from seven university hospitals across the Netherlands - concluded that there is a significant relationship between obesity and increased transplant failure or death. The authors acknowledge that there has been considerable debate about whether obese patients are suitable transplant candidates.

But they also point out that while obesity is preventable and fundamentally curable, compared to age and diabetes, experience shows that it can be very difficult for people with end-stage renal disease to lose weight.

"Our conclusion is that it's not fair to deny obese patients the chance of a kidney transplant as they still do better after a transplant than on dialysis" says Dr Aalten.

"However we shouldn't disregard the increased risk for obese patients after transplantation and we also need to bear in mind that it is important to give scarce resources to patients with the lowest risk.

"It is very important that patients facing kidney transplant are fully informed about the risks that they face and are encouraged to lose weight wherever possible."

Transplant International. Nov. 2006. The influence of obesity on short and long-term graft and patient survival after renal transplantation. Aalten et al. Transplant International. Volume 19, pages 901 to 907

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Peripheral neuropathy results in chronic pain, numbness and tingling. One of the most successful treatments for reversing these symptoms is The ReBuilder 2405 Professional System. The ReBuilder promotes new nerve growth, restores blood circulation, returns feeling to the patient's extremities, and reduces pain. In many cases, the ReBuilder actually reverses neuropathy and chronic pain while restoring nerves back to their normal state. See how you and your patients can benefit from this therapy. Click Here
<http://www.diabetesincontrol.com/rebuilder/index.php>

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Item 2

Panic Attacks Exacerbate Diabetes Symptoms

Repeated panic attacks in people with diabetes can lead to poorer control of the illness, more severe health complications, and a reduced quality of life.

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4332>

"Because panic and depression often go hand in hand, we weren't certain that patients who have panic, independent of depression, would also have these indicators," study lead author Evette Ludman said in a prepared statement.

For this new study, she and her colleagues surveyed nearly 4,400 people with diabetes.

The researchers found that 193 patients (4.4 percent) reported panic episodes that affected their behavior. Among those 193 patients, 54.5 percent also had symptoms of depression.

The patients who reported panic attacks had average HbA1c levels -- a measure of long-term glucose control -- of 8.1 percent, compared to 7.7 percent for those who did not suffer panic attacks. The usual treatment goal is to keep these levels below 7 percent.

The people with panic attacks reported an average of 4.2 diabetes symptoms, compared with 2.4 symptoms for people with no panic episodes.

Panic attacks may interfere with diabetes patients' self-care and their ability to follow their treatment regimens, resulting in poorer outcomes, the researchers said. Doctors should look for -- and treat -- signs of panic and depression in diabetes patients in order to improve their quality of life.

General Hospital Psychiatry, Nov 2006

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DID YOU KNOW:

High Fat Diets Cause Inflammation Leading To Diabetes And Heart Disease: A link between high fat diets and inflammation could mean new therapies to prevent both diabetes and heart disease. Researchers, presented their research at the American Heart Association Scientific Sessions Nov 2006. Researchers found that a high fat diet ends up drawing inflammatory cells into fat tissue. That stops fat tissue from storing the fats that are eaten. Instead, those fats migrate to the liver and to muscle tissue, which causes diabetes and heart disease. Researchers said that a high fat diet leads fat cells to produce molecules called chemokines. It is those molecules that attract inflammatory white blood cells into fat tissue. The results of these studies provide additional evidence that new therapies which block the initial inflammation in fat tissue may help prevent or treat disorders related to obesity such as diabetes and heart disease.

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Item 3

Diabetes Drug Reduces Cardiovascular Risks

A drug commonly used to increase the body's sensitivity to insulin may slow the progression of cardiovascular disease in patients with type 2 diabetes, according to a study at the University of Illinois at Chicago College of Medicine.

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4331>

The study, led by Dr. Theodore Mazzone, professor of medicine at UIC, found that patients with type 2 diabetes are known to have an increased risk of heart attack and other cardiovascular events. Some evidence suggests that a class of oral drugs used to treat type 2 diabetes called thiazolidinediones may be useful in reducing the progression of atherosclerosis, a thickening and hardening of the arteries that can lead to cardiac events.

Mazzone and colleagues conducted a Chicago-area multicenter trial to test a potential new approach for slowing the thickening of artery walls in diabetic patients.

They enrolled 462 racially and ethnically diverse adults with type 2 diabetes. The 289 men and 173 women, whose average age was 60, were randomly assigned to receive either pioglitazone (a thiazolidinedione sold as Actos), a drug that increases the body's sensitivity to insulin, or glimepiride (sold as Amaryl), another type of diabetes drug that stimulates the pancreas to make more insulin.

Patients received a baseline ultrasound to measure the thickness of the lining and middle layers of the carotid arteries, which carry blood to the brain. The arteries' thickness is a marker for coronary atherosclerosis and a predictor of future heart attack. The patients were then evaluated at 24, 48 and 72 weeks to measure the progression of thickening.

"The less the thickening, and the slower the rate of thickening, the less risk of heart attack in general," said Mazzone.

By the end of the study, patients taking pioglitazone had an artery thickness that decreased an average of 0.001 millimeters, while in those taking glimepiride it increased 0.012 millimeters. About 70 percent of all patients were able to complete the 72-week trial.

The study, Mazzone said, showed that pioglitazone significantly slowed the thickening of the carotid artery wall compared to the other diabetes drug.

"We showed this for both the average thickness of the wall, as well as the maximum thickness of the wall," he said.

The beneficial effect of pioglitazone was uniform regardless of age, sex, duration of diabetes, blood pressure, blood cholesterol levels or blood glucose control.

Among the findings:

- ?? In the Actos group hemoglobin A1C (HbA1C) values decreased by week 16 and remained steady, versus a rapid decrease in the Amaryl group followed by a gradual increase that continued until week 72.
- ?? HDL increased with Actos compared to Amaryl.
- ?? Triglycerides decreased by 13.5% in the Actos group and increased by 2.1% in the Amaryl group ($P < 0.0010$).
- ?? LDL increased by 5.8% in the Actos group and 1% in Amaryl group (NS).

The slowing of CIMT progression was observed in all Actos treated patients, regardless of age, gender, obesity, hypertension, duration of diabetes, or glucose control, he said.

Moreover the benefit was observed irrespective of whether the patient was using a statin, Dr. Mazzone said.

The study also monitored cardiovascular clinical events. There were four adverse events in the pioglitazone treated group, including three patients who required coronary revascularization. There were 10 adverse events in the glimepiride treated group, including eight who required coronary revascularization.

"Additional data needs to be brought to bear," said Mazzone, "however this is very helpful for suggesting that pioglitazone could be a useful, novel approach for managing cardiovascular risk in patients with diabetes."

The study was funded by Takeda. Aguilar D, Deswal A. Thiazolidinediones are not associated with increased risk of heart failure hospitalizations in ambulatory patients with diabetes mellitus and heart failure. American Heart Association 2006 Scientific Sessions; November 12-15, 2006; Chicago, IL. Abstract 1894.

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Item 4

Ruboxistaurin Reduces Vision Loss

Once daily, oral investigational therapy reduced sustained Moderate vision loss by 40% over three-year period for patients with moderate to severe non-proliferative diabetic retinopathy.

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4330>

Ruboxistaurin mesylate (proposed brand name Arxxant(TM), pronounced ark-ZONT) reduced the risk of sustained moderate vision loss by 40 percent when compared to placebo in patients with moderate to severe non-proliferative diabetic retinopathy (DR).

Diabetic retinopathy (DR) occurs when diabetes damages the small blood vessels in the retina, a part of the eye that is needed for vision. This damage can lead to vision loss and possible blindness. DR affects an estimated 4.1 million Americans age 40 and older, with 899,000 having a vision-threatening form of the disease,(2) and it is the leading cause of blindness among working-age adults.(3) Yet blindness is only a part of the story. Even moderate vision loss can lead to difficulties in reading, driving, employment, and mobility as well as an increased risk of accidental injuries.(4,5,6)

The recent study showed that vision loss (measured in the study as sustained moderate vision loss or SMVL) occurred in only 5.5 percent of patients treated with ruboxistaurin compared to 9.1 percent of patients treated with placebo, equaling a 40 percent relative risk reduction (P=0.034) over three years.(1) Vision loss (SMVL) was defined as a three-line loss on a standard eye chart that was sustained for at least 6 months.(1)

The study findings were recently published online in the in press version of Ophthalmology [http://www.ophsource.org/periodicals/ophtha/inpress] and will be published in the print version of the December 2006 issue of Ophthalmology.



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DID YOU KNOW:

One in Six Americans Have Pre-Diabetes and Most Don't Know It: Fifty-four million Americans - that's one in six of us -- have pre-diabetes and most don't even realize it. Mark Schutta, MD, medical director of the Penn Rodebaugh Diabetes Center, is urging at-risk patients to be proactive and ask their doctors to give a simple blood test for pre-diabetes - to arm their patients with information before the damage is done. [Read and print the full news article at:](#)

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4338>

Item 5

New Study Weighs Benefits of Exercise, Diets

While exercise and weight loss are equally effective ways to lose weight, exercising helps to maintain muscles, research finds.

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4329>

Those in their 50s and 60s who want to lose weight might consider heading to the cardio workout room instead of counting calories, suggests new research out this month.

Both those who dieted and those who exercised lost a significant amount of weight, according to findings from an NIH-funded study on whether a calorie-restriction diet can extend lifespan. However, while exercisers maintained their strength and muscle mass and increased aerobic capacity, those who dieted lost muscle mass, strength and aerobic capacity.

“Exercise-induced weight loss provides the additional benefit of improving physical performance capacity,” says Edward Weiss, Ph.D., lead author and assistant professor of nutrition and dietetics at Saint Louis University’s Doisy College of Health Sciences.

“If push comes to shove and somebody wants to know if they should diet or exercise to lose weight, I would suggest exercise, provided they are willing to put in the extra time and effort and not offset the gains they make by eating more.”

Weiss is a part of a Washington University team of scientists who studied healthy 50- to 60-year olds whose body mass index was between 23 and 30, placing them at the high end of normal weight or overweight. Of the 34 study participants, 18 dieted and 16 exercised to lose weight.

The goal of dieters was to reduce their calorie consumption by 16 percent the first three months, and by 20 percent the next nine. Likewise, exercisers strove to burn 16 percent more calories the first three months, increasing to 20 percent the next nine months.

Both groups lost between 9 and 10 percent of their total body weight. Those who exercised engaged in 60 minutes of cardiovascular activity six times a week, such as a brisk three- to four-mile walk. Those exercisers who worked out for 90 minutes a day took off more pounds – 15 to 20 percent of their body weight.

Those who dieted lost muscle mass while those who exercised did not. This is because exercisers routinely challenged their muscles, which prevented muscle tissue from degrading. Dieters didn't work their muscles as vigorously as those who exercised.

"In addition, once a person loses weight, his or her muscles don't have to work as hard at everyday movements, such as rising from a chair, walking up steps or getting out of a car," Weiss says.

"Because they're carrying a lighter load, less demand is placed on them."

The muscles dieters use to carry their bodies "detrain," in much the same way that a weight lifter using less weight in the gym doesn't develop as large of muscles as one who uses heavier weights. Weiss was careful not to rule out the benefits of dieting, though.

"It's important that dieting not be seen as a bad thing because it provides enormous benefits with respect to reducing the risk of disease and is effective for weight loss," Weiss says. "Furthermore, based on studies in rodents, there is a real possibility that calorie restriction provides benefits that cannot be achieved through exercise-induced weight loss."

In addition, those who exercise may be under the mistaken impression that they can eat more and still lose weight.

"A critical requirement for exercise-induced weight loss is that food intake does not increase," he says.

Weiss, who also is an adjunct research assistant professor at Washington University School of Medicine, conducted the research in the laboratory of John O. Holloszy, M.D., professor of medicine at Washington University. It was published in an online edition of the Journal of Applied Physiology.

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Item 6

Diabetes and Metabolic Syndrome Treated with Malaria Drug

Studies of a rare genetic condition that increases cancer risk have unveiled a potential treatment for metabolic syndrome, and diabetes disorders that afflicts as many as one in every four American adults and puts them at sharply increased risk cardiovascular disease, heart attacks and strokes.

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4328>

Scientists know relatively little about metabolic syndrome, which is linked to a range of symptoms that include obesity, insulin resistance, high blood pressure, low levels of good cholesterol and high blood sugar levels. The number of adults and children with the condition is rising sharply in industrial countries, and diagnoses are also increasing in developing countries like India and China as they adopt Western standards of living.

In findings published in the November issue of *Cell Metabolism*, researchers at Washington University School of Medicine in St. Louis and St. Jude Children's Research Hospital in Memphis, Tenn. report that a small dose of the malaria drug chloroquine eased many symptoms of metabolic syndrome in mice, reducing blood pressure, decreasing hardening and narrowing of the arteries and improving blood sugar tolerance.

"We just received funding for a clinical trial, and we're very excited to see if the processes activated by chloroquine can effectively treat one of the most common health problems of modern industrialized society," says senior author Clay F. Semenkovich, M.D., professor of medicine and of cell biology and physiology at Washington University. "We already know that chloroquine is safe and well-tolerated, and our mouse results suggest we may only need very low and perhaps infrequent doses to achieve similar effects in humans."

The surprising chain of connections that led to the possibility of using chloroquine also has provided a fairly detailed sense for how the drug may be helping. That chain starts with a link between insulin and a protein known

as ATM. Normally involved in the response to stress and repair of DNA, ATM is mutated in the rare genetic disorder ataxia-telangiectasia (AT). Individuals with this disease have markedly increased risk of tumors, immunological problems and severe progressive deterioration of a part of their brain that controls muscle function and coordination.

In the present study, the Washington University/St. Jude team demonstrated that the ATM enzyme is important for many of the beneficial effects of insulin and that loss of ATM worsens blood sugar control, high blood pressure and atherosclerosis.

"Our studies of ATM demonstrate how investigating the causes of rare diseases at a molecular level can contribute to understanding the mechanisms of more common diseases and point the way to new treatment options for those diseases," said Michael Kastan, M.D., Ph.D., director of the Cancer Center at St. Jude.

Kastan's laboratory discovered how ATM is activated in response to DNA damage. Six years ago, they were investigating an unusual type of diabetes that can occur in children with AT when they discovered that insulin can activate ATM. This observation led to studies in the Semenkovich lab showing the importance of ATM in metabolic syndrome. When the Kastan lab discovered that chloroquine can activate ATM, it provided a potential treatment intervention, the success of which is reported in this paper.

Prior studies done elsewhere had suggested that loss of one copy of the gene for ATM, a condition that could be present in one in every 50 to 100 people, increases risk of coronary artery disease and heart attack. The Kastan and Semenkovich labs found reduced ATM levels created a condition like metabolic syndrome in mice fed a high-fat diet and given a genetic predisposition to heart disease. Symptoms included increased insulin resistance and atherosclerosis and higher levels of a signaling molecule that activates a class of immune defensive cells known as macrophages.

"The data are starting to suggest that some of the metabolic dysfunctions triggered by obesity may be linked to the inflammatory responses that go awry in autoimmune disorders like arthritis," notes Semenkovich.

"Chloroquine is sometimes used to treat autoimmune conditions like lupus and arthritis. Our studies provide further evidence for links between oxidative stress, inflammatory processes and common human diseases such as type 2 diabetes."

At low doses, chloroquine moderated many of the symptoms of metabolic syndrome in several mouse models of metabolic syndrome and type 2 diabetes. Researchers are still determining the exact details of how chloroquine and insulin signal through ATM, and those details could lead to additional treatment options for these disorders.

A pilot clinical trial at Washington University using low dose chloroquine in patients with symptoms of metabolic syndrome is showing promising results. A broader therapeutic trial that involves a year of low-dose chloroquine treatment will get under way soon. If it is successful, a multicenter trial will likely follow.

"We want to make sure we find the right dose--it may be possible to go even lower--and that it's safe and effective," Semenkovich says. "We're also looking into the possibility of screening for the loss of one copy of ATM in humans that unknowingly puts many at increased risk of heart attack and diabetes, and are planning studies in animals to see if chloroquine can help reduce this risk."

Schneider JG, Finck BN, Ren J, Standley KN, Takagi M, Maclean KH, Bernal-Mizrachi C, Muslin AJ, Kastan MB, Semenkovich CF. ATM-dependent suppression of stress signaling reduces vascular disease in metabolic syndrome. Cell Metabolism, November 2006.

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Item 7

Enriched Bread Reduces Energy Intake and Increase Feeling of Fullness

New study shows that you can eat bread and lose weight?? Bread enriched with lupin kernel flour at the expense of wheat flour reduced energy intake and increased the feeling of fullness, which may have important implications for weight management.

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4327>

Lupin flour has been earmarked as the next major competitor to soybean as a high protein source.

Lupin (*Lupinus angustifolius L.*), is the major grain legume grown in Australia and production exceeds 800,000 tons per year. Used mainly for feed, since 2001 in Australia lupin bran and flour have been used as a substitute in food formulations for more expensive traditional cereal grains.

The average protein content of lupin is just over 30 per cent, compared with 44 to 48 per cent in soybeans. In Europe, the flour is already being used in bakery and pasta products because it can replace eggs and butter to enhance color and additional potential uses of lupins are in crunchy cereals and snacks, baby formula, soups and salads.

In addition to the protein, lupin flour is also said to contain non-starch polysaccharides which act like both soluble (oat fiber) and insoluble (wheat bran) fiber.

It is not the first time that lupin flour has been linked to increased [satiety](#) with, for example, Deakin University researchers reporting in 2004 that fiber from lupin-kernels used as fat replacers in sausage patty was associated with reduced energy intake in men (*British Journal of Nutrition*, Vol. 91, pp. 591-599).

However, lead researcher Jonathan Hodgson states that: *“Apart from matching energy intake and the higher inclusion rate, our study is the first to assess effects both within and between meals and to look at ghrelin as a factor that might modulate the effect of LKF on satiety.”*

The new research, published in the November issue of the *American Journal of Clinical Nutrition* (Vol. 84, pp. 975-980), reports results from two randomized controlled crossover trials. The first study looked at the effects of bread enriched with lupin kernel flour (LKF) on satiety and energy intake compared to standard white bread. The second study looked at the effects of LKF bread or white bread on blood ghrelin levels, a hormone produced in the stomach that stimulates appetite.

In the first study 16 participants (average age 58.6, eight women, average BMI 31.3 kg per sq.m) were assigned to eat the LKF bread or white bread as toast at breakfast and as a sandwich at lunch for four weeks. After one week's washout period the participants were crossed over to the other intervention type. The LKF bread was made by replacing 40 per cent of the wheat flour found in normal white bread with LKF. The finished breads contained the same calorific value at breakfast.

The Australian researchers report that eating the lupin bread breakfast resulted in significantly higher self-reported satiety than the white bread group, and a lower energy intake (488 kJ less) at lunch than the white bread breakfast.

Eating the lupin-enriched bread at lunch also reduced between meal energy intake (1028 kJ less) than the white bread lunch.

“Consistent with the findings for self-reported satiety, the lupin bread breakfast resulted in up to 20 per cent lower energy intake at lunch than the white bread breakfast,” said the researchers.

“These results are supported by previous studies that showed that high-protein diets reduce energy intake at subsequent meals more so than do high-carbohydrate and high-fibre diets reduce energy intake at subsequent meals more so than do low-fibre diets,” they said.

In the second study 17 participants (average age 61, six women, average BMI 27.2 kg per sq.m) were fed a lupin toast breakfast or a white bread breakfast and blood levels of ghrelin measured at regular intervals for three hours. The participants returned one week later and ate the other type of toast for breakfast.

Dr. Hodgson and his co-researchers report that the plasma ghrelin concentration was significantly lower in the lupin toast group compared to the white toast group (0.97 versus 1.93 picograms per millilitre of plasma, respectively).

“Thus, LKF is a novel food ingredient that could be incorporated into a range of products that might benefit appetite regulation,” concluded the researchers.

Satiety has been called the 'Holy Grail of nutrition' and is seen as a key target in the battle against obesity, with figures from Europe showing that up to 27 percent of men, 38 percent of women, and 3m children are clinically obese in some parts of the bloc.

American Journal of Clinical Nutrition (Vol. 84, pp. 975-980)

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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 and register. There were over 600 people on the last call. More info at www.diabetes911.net

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Item 8

Alpha-Lipoic Acid Improves Diabetic Neuropathy

According to a report in the November issue of Diabetes Care, Alpha-lipoic acid (ALA) given orally improves symptoms in patients with diabetic polyneuropathy

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4326>

A recent meta-analysis showed that daily intravenous treatment with ALA could reduce pain, paresthesia, and numbness in diabetic patients, the authors explain, but little work has been done to investigate the use of oral ALA.

Dr. Dan Ziegler from Heinrich Heine University, Duesseldorf, Germany and colleagues compared three doses of oral ALA to placebo in 166 patients with symptomatic diabetic polyneuropathy.

Mean total symptom scores and stabbing/lancinating and burning pain subscores were significantly reduced after 5 weeks in all active treatment arms compared with the placebo arm, the authors report.

ALA treatment had no measurable effect on paresthesia and numbness, the results indicate. Symptoms improved significantly as early as 1 week with the highest ALA dose (1800 mg daily) and within 2 weeks with the other doses (600 mg and 1200 mg daily), the researchers note, and there were no significant differences among the three ALA groups for changes in mean total symptom score at any time point.

The findings were similar when Neurology Symptoms and Change Score was used instead of mean total symptom score, the report indicates.

Nausea, vomiting, and vertigo were more common with ALA treatment than with placebo treatment, the investigators say.

"Whether the observed favorable short-term effect of ALA on neuropathic symptoms and deficits can be translated into slowing the progression of diabetic polyneuropathy in the long term is unknown," the authors write. "However, our finding that neuropathic deficits such as impaired sensory function were improved is encouraging, because these are major risk factors in the development of neuropathic foot ulcers."

"In the absence of a dose response and because the higher doses resulted in increased rates of gastrointestinal side effects, 600 mg once daily seems to be the most appropriate oral dose," the researchers add.

Diabetes Care 2006;29:2365-2370.

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Proc Natl Acad Sci 2006;103:17438-17443.

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FACT:

Salt Intake Strongly Associated With Obesity: A study published in the journal "Progress in Cardiovascular Diseases" refutes the frequently repeated claims that a comprehensive salt reduction would not produce any overall health benefits, or would even increase diseases and shorten the life-span. [Read and print the full news article at:](#)

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4339>

Item 9

WelChol Improves Glycemic Control and Cholesterol in Uncontrolled Type 2's

This is the first study ever to evaluate WelChol in combination with insulin, and it demonstrated A1C reductions of 0.5%.

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4325>

Data presented last week at the American Heart Association's (AHA) Scientific Sessions 2006 in Chicago demonstrated that WelChol(R) (colesevelam HCl), when added to insulin in uncontrolled patients with type 2 diabetes mellitus, improves glycemic control. This is the first study ever to evaluate WelChol in combination with insulin, and it demonstrated A1C reductions of 0.5% compared to placebo (- 0.41% vs. +0.09%, p <0.001). The same A1C effect was demonstrated in a smaller WelChol study presented at the American Diabetes Association's (ADA) annual scientific sessions in June 2006.

The Glucose Lowering Effect Of WelChol Study (GLOWS) demonstrated that WelChol added to oral antidiabetic (OAD) therapy in type 2 patients yielded A1C lowering of 0.5% compared to placebo (p=0.007).

Poster presentation #1581, entitled "Colesevelam HCl Improves Glycemic Control in Type 2 Diabetes Mellitus Subjects Managed with Insulin Therapy," documented findings beyond glycemic control. The study also demonstrated a substantial mean reduction in lipid parameters as compared to placebo, including LDL-C ("bad cholesterol") reductions in the WelChol group of 12.8%, apo B reductions of 5.3%, and apo A-1 level increases of 2.3%. The inclusion of WelChol in the treatment regimen did not affect hypoglycemic events, nor did it cause patients to gain weight -- a common side effect seen in other diabetes therapies.

As a result, a compound that can help lower both of these important cardiovascular risk factors, A1C and LDL-cholesterol, may be of great benefit for many patients.

The study was a 16-week, multi-center, randomized, double-blind, placebo-controlled study analyzed the antihyperglycemic effect of adding WelChol to insulin alone or in combination with oral antihyperglycemics in subjects with uncontrolled type 2 diabetes. The study involved 280 patients with A1C between 7.5 and 9.5% (mean baseline A1C was 8.3%). Following a two-week, single-blind, placebo run-in, subjects were randomized to receive either WelChol (3.75 g/day) or placebo. Daily mean insulin use was similar for both groups at baseline and subjects continued to take their existing oral antihyperglycemic medications. Throughout the study, insulin doses remained within 10% of the baseline dose.

The primary endpoint was placebo-corrected change in A1C over the course of the study. The secondary endpoints included mean reductions in LDL-C, mean reductions in apo B, increase in apo A-1 and mean triglyceride decreases.

WelChol is indicated for LDL-C lowering and was approved by the FDA for marketing in May 2000. WelChol is different from most other cholesterol-lowering drugs on the market because it is non-systemic, meaning that the body does not absorb it and it is eliminated without traveling to the liver or kidneys. Systemic medications, which include statins, fibrates, and cholesterol absorption inhibitors, are those that are absorbed from the intestine into the bloodstream and travel throughout the body, specifically to the liver and/or kidneys.

Study Presented November 17, 2006 at the American Heart Association's Scientific Sessions

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Item 10

Novartis's Diabetes Drug Galvus Will Be Delayed

A U.S. decision on approving Novartis AG's key diabetes drug Galvus has been delayed by three months after the firm asked the Food and Drug Administration to consider new clinical trials data.

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4324>

Novartis said on Monday the Food and Drug Administration would examine new data, which provide evidence that skin problems in a preclinical animal study have not been seen in clinical studies with patients treated for Type 2 diabetes.

"We have supplied additional data to the FDA in response to some questions over the last few weeks," James Shannon, Novartis's head of pharmaceuticals development, said on a conference call.

"We remain very confident in the safety and efficacy of our product and in gaining U.S. approval," Shannon said. "We look forward to the first quarter of 2007."

The move leaves Novartis behind Merck's new introduction of Januvia in the race for market share for the new class of diabetes drugs, known as DPP-4 inhibitors.

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Item 11

Fasting Glucose Increases in Older Adults With Hypertension Regardless of Treatment Type

Fasting glucose (FG) levels increase in older adults with hypertension regardless of whether they are treated with chlorthalidone, amlodipine, or lisinopril.

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4323>

This comes from the results of an analysis from the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT) reported in the November 13 issue of the *Archives of Internal Medicine*. Although the risk of developing FG levels higher than 125 mg/dL was modestly greater with chlorthalidone, there was no conclusive or consistent evidence that this diuretic-associated increase in risk for diabetes increased the risk for clinical events.

Robert Phillips, MD, director of the Heart and Vascular Center of Excellence at the University of Massachusetts Memorial Medical Center in Worcester, states that, "Many patients with hypertension eventually develop diabetes. "Physicians and others interested in the individual and public health are guided by the principle of primum non nocere — first, do no harm. The initial reports from the ALLHAT trial showed that there was more diabetes associated with thiazide-diuretic treatment, and the authors sought to determine if this was harmful."

The objective of this analysis was to compare the effect of first-step antihypertensive drug therapy with thiazide-type diuretic, calcium-channel blocker (CCB), or angiotensin-converting enzyme (ACE) inhibitor on FG levels and to determine the risks for cardiovascular and renal disease associated with elevated FG levels and incident diabetes mellitus in these 3 treatment groups. The investigators performed post hoc subgroup analyses from

ALLHAT among nondiabetic participants who were randomized to treatment with chlorthalidone (n = 8419), amlodipine (n = 4958), or lisinopril (n = 5034). Mean follow-up was 4.9 years.

Corresponding author Barry R. Davis, MD, PhD, of the University of Texas School of Public Health, Coordinating Center for Clinical Trials in Houston stated that, "Mean fasting glucose levels increased during ALLHAT follow-up in all treatment groups." "There was no significant association of fasting glucose level change at 2 years with subsequent coronary heart disease [CHD], stroke, cardiovascular disease, total mortality, or end-stage renal disease."

At year 2, the chlorthalidone group had the greatest increase in mean FG levels (+8.5 mg/dL [0.47 mmol/L] vs +5.5 mg/dL [0.31 mmol/L] for amlodipine and +3.5 mg/dL [0.19 mmol/L] for lisinopril). The odds ratios for developing diabetes at 2 years were 0.55 with lisinopril vs chlorthalidone (95% confidence interval [CI], 0.43 - 0.70), and 0.73 with amlodipine vs chlorthalidone (95% CI, 0.58 - 0.91; *P* < .01). Incident diabetes at 2 years was not significantly associated with clinical outcomes, except for CHD (risk ratio [RR], 1.64; *P* = .006), but RR was lower and nonsignificant in the chlorthalidone group (1.46; *P* = .14).

"The diuretic did not appear to be the culprit responsible for the increased CHD risk associated with new-onset DM [diabetes mellitus]," Dr. Phillips says. "Rather surprisingly, development of DM during treatment with ACE inhibitors was associated with an increased risk of CHD and congestive heart failure, and development of DM during treatment with CCB was associated with increased mortality. We need to be cautious about the clinical implications, but I do believe that they suggest that diuretic-induced hyperglycemia is relatively benign. Conversely, if diabetes develops on an ACE or CCB, it suggests that that patient has developed insulin resistance despite being on drugs that tend to improve insulin sensitivity, and hence the consequences are more dire."

Strengths of this study, according to Drs. Davis and Phillips, are the large sample size providing much greater statistical power to recognize associations and differences between medications and the relatively long duration of follow-up. Limitations are the retrospective design, and follow-up possibly insufficient to detect the adverse effects of thiazide-induced hyperglycemia.

"I think that [the ALLHAT analysis] will help physicians to feel more comfortable about using low-dose thiazide therapy as either the initial drug choice as or part of combination therapy," Dr. Phillips said. "If hyperglycemia or frank diabetes does develop, many physicians would stop the diuretic and substitute another agent to see if the hyperglycemia would resolve. One can't argue with that approach, but actually we do not know if it is the correct action to take."

"These results should reinforce the recommendations of the Joint National Committee on Hypertension that diuretics should be considered as a first-line treatment of hypertension and should be part of any multidrug regimen for hypertension," Dr. Davis concluded.

Arch Intern Med. 2006;2174-2176, 2191-2201.

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DID YOU KNOW:

Pharmacy Program Helps Elderly Take Their Meds- Increases Compliance to 96%: Compliance rates rose from 61 percent to 96 percent, study found. The study which includes education about medications, regular follow-up by pharmacists, and dispensing medications using time-specified blister packs -- increased medication adherence by more than 30 percent. "It's the delivery of clinical pharmacy care, which makes education, follow-up and custom medication available to patients. In their study, they found that, barriers to medication adherence are numerous, but include the prescription of complex medication regimens, treatment of asymptomatic conditions and convenience factors. These factors are particularly prevalent among the elderly population, placing them at increased risk for medication nonadherence." The researchers studied 174 patients, average age 78, who took an average of nine different medications a day and were enrolled in a six-month pharmacy care intervention. The study will appear in the Dec. 6 issue of the *Journal of the American Medical Association*

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Item 12

Diabetes Set to Wipe Out Whole Ethnic Populations by End of Century

With one in two having diabetes, it could wipe out Maori and Polynesian Islanders by the end of the century, according to an international expert in the disease.

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4322>

Professor Martin Silink, head of the Brussels-based International Diabetes Foundation, told a gathering of experts in Melbourne that indigenous people had a greater genetic risk of contracting type 2 diabetes, which was often undiagnosed.

Western lifestyles and diets had replaced traditional habits, exacerbating the problem. "They also have the genes that make the diabetes more damaging, so they are more prone to develop the serious complications of diabetes," Prof Silink said.

"There is a death due to diabetes every 10 seconds, and an amputation due to diabetes every 30 seconds. We are dealing with the biggest epidemic in world history."

Conference host Professor Paul Zimmet said diabetes was unknown in the Pacific before World War 2, but now the region had some of the highest rates in the world and where the existence of indigenous communities were at risk.

Extinction was a "very real reality" and New Zealand's Maori and Pacific Island populations were just as much at risk as Australia's Aborigines and native Indians in the United States and Canada, he said.

About 230 million people -- or about six per cent of adults worldwide -- have type 2 diabetes, but among indigenous people up to one in two adults have the disease.

Professor Chris Cunningham, of Massey University's Research Centre for Maori Health, agreed with Prof Zimmet's prediction, describing diabetes among Maori as at "epidemic proportions".

He agreed Maori and Pacific Islanders were more susceptible to diabetes as they were not physiologically accustomed to the Western lifestyle and diet.

"The reality is, a Big Mac hurts Maori more than it hurts caucasians," he stated..

Health Ministry figures show type 2 diabetes is thought to account for 20 per cent of all deaths among Maori, compared with 4 per cent for non-Polynesian people in New Zealand.

Maori males are 6.5 times more likely and Maori females 10 times more likely to die from diabetes than non-Polynesians, while Pacific peoples are five times more likely to die from diabetes than non-Polynesians.

Last year, an estimated 125,000 New Zealanders were diagnosed with diabetes, 22 per cent of those Maori.

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Item 13

Rimonabant (Accomplia) to Treat Obesity and Improve Glycemic Control Approved in Mexico

Accomplia is now approved in Europe and Mexico, US next?

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4321>

On November 1, Mexico's Ministry of Health (via the Federal Commission for Sanitary Risks Prevention) approved rimonabant (*Accomplia* 20-mg tablets, made by Sanofi-Aventis) for use as an adjunct to diet and exercise in the treatment of obese or overweight (BMI >27 kg/m²) patients with associated cardiometabolic risk factors such as type 2 diabetes or dyslipidemia. A second indication allows its use with metformin or a sulfonylurea to improve glycemic control in type 2 diabetic patients with overweight.

Rimonabant is the first in a new class of drugs called cannabinoid subtype 1 (CB1) blockers, which work by selectively blocking receptors in the brain and peripheral organs that play a key role in glucose and lipid metabolism (eg, adipose tissue, the liver, gastrointestinal tract, and muscle). CB1 blockade decreases endocannabinoid hyperactivity, which has been recently characterized as playing an important role in regulating body weight, controlling energy balance, and glucose and lipid metabolism.

The approval was based on a review of data from the Rimonabant In Obesity/Overweight (RIO) clinical trial in more than 6600 patients worldwide, of which 4500 were followed for up to 2 years.

Results showed that administration of 20 mg of rimonabant daily significantly decreased weight and waist circumference, HbA_{1c} levels, and triglyceride levels while increasing high-density lipoprotein (HDL) cholesterol levels. Approximately 50% of the improvements in HbA_{1c}, triglyceride, and HDL cholesterol levels were beyond that expected from weight loss alone.

In placebo-controlled studies, the most common adverse events leading to discontinuation of therapy included nausea, mood alteration with depressive disorders, anxiety, and dizziness. Rimonabant should not be used in patients with hepatic or renal impairment, or in patients with uncontrolled serious psychiatric illnesses such as major depression.

Rimonabant was previously approved by the European Commission in June 2006 for use as an adjunct to diet and exercise in the treatment of obese or overweight patients with cardiometabolic risk factors.

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FACT:

Dark chocolate acts as aspirin, study: Cocoa can function in the same way as aspirin in preventing heart attacks. Scientists at the John Hopkins University School of Medicine say that a few squares of chocolate a day can reduce the risk of a heart attack by almost 50 per cent in some cases. The discovery came after volunteers for a trial on the effects of aspirin were disqualified for eating chocolate, despite being warned that this would interfere with results from the study. Despite being barred from participating in the drug study, the chocolate-eaters blood were examined and compared with others who hadn't indulged in order to determine what effect cocoa has on platelets. Platelets from those who had eaten chocolate clotted more slowly than those who had not – taking an average of 130 seconds to clump together compared to 123. Professor Diane Becker said: "What these chocolate 'offenders' taught us is that the chemical in cocoa beans has a biochemical effect similar to aspirin in reducing platelet clumping, which can be fatal if a clot forms and blocks a blood vessel, causing a heart attack." *The American Heart Association's annual Scientific Sessions Nov, 2006.*

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Item 14

Weight Loss Improves Glucose Tolerance in Nonobese, Healthy Adults

Weight loss from exercise or calorie restriction improved glucose tolerance in nonobese, healthy men and women, according to the results of a randomized controlled trial.

<http://www.diabetesincontrol.com/modules.php?name=News&file=article&sid=4320>

"Weight loss, through calorie restriction or increases in energy expenditure via exercise, improves glucose tolerance and insulin action," write Edward P. Weiss, MD, and colleagues from the Washington University School of Medicine Comprehensive Assessment of Long-term Effects of Reducing Intake of Energy (CALERIE) Group. "However, exercise-induced energy expenditure may further improve glucoregulation through mechanisms independent of weight loss.... The purpose of the present study was to test the hypothesis that exercise training-induced weight loss results in greater improvements in glucose tolerance and insulin action than does similar weight loss induced by calorie restriction."

Sedentary men and women aged 50 to 60 years with a body mass index (BMI) of 23.5 to 29.9 kg/m² were randomized to 12 months of exercise training (n = 18), calorie restriction (n = 18), or to a healthy lifestyle control group (n = 10). An oral-glucose tolerance test determined the insulin sensitivity index and areas under the curve for glucose and insulin. Adiponectin and tumor necrosis factor alpha (TNF- α) concentrations were measured in fasting serum, and dual-energy x-ray absorptiometry was used to measure fat mass.

The exercise training and calorie restriction groups had similar yearlong energy deficits, as reflected in body weight and fat mass changes. The insulin sensitivity index increased, and the glucose and insulin areas under the curve decreased in the exercise training and calorie restriction groups and were unchanged in the healthy lifestyle group and not significantly different between the exercise training and calorie restriction groups. There were marginally significant increases in adiponectin and decreases in the ratio of TNF- α to adiponectin in the exercise training and calorie restriction groups, but not in the healthy lifestyle group.

"Weight loss induced by exercise training or calorie restriction improves glucose tolerance and insulin action in nonobese, healthy, middle-aged men and women," the authors write. "However, it does not appear that exercise training-induced weight loss results in greater improvements than those that result from calorie restriction alone."

The National Institutes of Health supported this study through some of its investigators. The authors have disclosed no relevant financial relationships.

Am J Clin Nutr. 2006;84:1033-1042.

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Item 15

Risk of Diabetes Reduced by 58% With Active Counseling and Continues

The effects of lifestyle intervention on diabetes risk do not disappear after active counseling has stopped, even after three plus years.

Three years after the end of the study, those in the intervention group still had a reduced incidence of type 2 diabetes compared with the control group.

In an accompanying comment, Ronald B. Goldberg, MD, of the Diabetes Research Institute, University of Miami in Miami, Florida, says the latest results from Finland show that the initial intervention in the lifestyle group "had a sustained effect that appeared to last almost as long again as the period of active counseling."

The Finnish Diabetes Prevention Study assessed the effects of active counseling with regard to lifestyle changes in overweight middle-aged men and women, who were randomly assigned to the counseling group (n = 265) or the control group (n = 257) for 4 years.

At the end of this period, the incidence of new diabetes was cut by 58% in the intervention group. These results were reported in 2000 and published a year later in *The New England Journal of Medicine*. Two years later, the final results of the US Diabetes Prevention Program showed an identical reduction in new type 2 diabetes with a similar intensive lifestyle intervention.

Now, the Finnish investigators have further followed up those who were still free of diabetes at the end of their study for a median of 3 more years, monitoring diabetes incidence, body weight, physical activity, and dietary intake of fat, saturated fat, and fiber.

At the end of this 3 years, the incidence of type 2 diabetes was 4.6 per 100 person-years in the group that had undergone the counseling compared with 7.2 in the control group ($P = .0401$), indicating a 36% reduction in relative risk in the intervention group.

The risk reduction was related to the success in achieving the intervention goals of weight loss, reduced intake of total and saturated fat, increased intake of dietary fiber, and increased physical activity.

"From a public health point of view there is an important message: an intensive lifestyle intervention lasting for a limited time can yield long-term benefits in reducing the risk of type 2 diabetes in high-risk individuals," say Lindstrom and colleagues.

Dr. Goldberg says that although the benefit seen in the follow-up period is smaller than in the original study, it is still significant. "Overall the relative reduction in diabetes incidence over the entire 7-year follow-up in the lifestyle group was 43%, similar to the 46% reduction noted in the diet plus exercise intervention group of the 6-year [Chinese] Da Qing study, reported in 1997," he notes.

Practice Pearls

- ?? The first report of the Finnish Diabetes Prevention Study demonstrated that lifestyle counseling could reduce subjects' weight in years 1 and 2 compared with usual care. Lifestyle counseling had a direct role in reducing the risk for incident diabetes by 58%.
- ?? The current study demonstrates that lifestyle counseling among patients with impaired glucose tolerance can improve the attainment of diet, weight, and exercise goals, even after active counseling is finished. Attainment of these goals translated into a reduced risk for incident diabetes both immediately after and at a median of 3 years after the counseling intervention.

Lancet. 2006;368:1673-1679.

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Quote of the Week!

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I'm not going to answer”*

.....Yogi Berra

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