

DIABETES IN CONTROL.com Newsletter

The Newsletter for Professionals in Diabetes Care

July 18, 2007 - Issue #373

Top Diabetes Stories:

Avandia Update July 07: New Information - Side Effects Tripled*

<http://www.diabetesincontrol.com/results.php?storyarticle=4970>

Continuous Blood Glucose Monitoring Shows No Effect on Long-Term Control*

<http://www.diabetesincontrol.com/results.php?storyarticle=4968>

Mixed Results for Inhaled Insulin for Type 2 Diabetes*

<http://www.diabetesincontrol.com/results.php?storyarticle=4966>

Antihyperglycemic Agents Have No Effect on All-Cause Mortality*

<http://www.diabetesincontrol.com/results.php?storyarticle=4963>

New Type 1 Diabetes Gene Found In Children*

<http://www.diabetesincontrol.com/results.php?storyarticle=4961>

Link Between Carbohydrates and Vision Loss*

<http://www.diabetesincontrol.com/results.php?storyarticle=4958>

Anti-Malarial Drug Reduces Risk of Diabetes by 77%*

<http://www.diabetesincontrol.com/results.php?storyarticle=4957>

Obesity Rates Continue Relentless Climb- 100% Increase in 4 Years*

<http://www.diabetesincontrol.com/results.php?storyarticle=4956>

From the editor's desk

We are coming close to the next AADE conference in St. Louis and Diabetes in Control will again be there. This year Present Diabetes our continuing education partner will be joining us. Be sure to stop by our booth for some samples, enter our drawing for a free I-pod and say hello. We have some exciting information to share with you.

Dr. Sheri Colberg, author of *The 7 Step Diabetes Fitness Plan: Living Well and Being Fit with Diabetes*, has more help for your patients who need exercise. [Exercising with Complications: Neuropathy](#). This is a good one to print out add to your handouts.

<http://www.diabetesincontrol.com/results.php?storyarticle=4971>

There are more and more patients using CGMS devices. I often get calls as to how accurate they are. I have a abstract presented at the ADA that shows how well it works. [Time-Lag for CGMS](#). Then see this week's item # 3 which talks about it's ineffectiveness in controlling blood sugars.

<http://www.diabetesincontrol.com/results.php?storyarticle=4972>

FREE LIVE WEBCAST: August 8, 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 <http://www.diabetes911.net/askdrb/index.php> and register.

Would you be interested in going on a diabetes cruise? We are planning a 9 day Diabetes Education Cruise with Dr. Richard K. Bernstein for next spring or fall. We will provide 16-20 Hours of CME and CE for medical professionals to learn Dr. Bernstein's treatment methods and education for patients with diabetes. Medical professionals who attend will be offered the opportunity to become part of the referral list for patients. If you might be interested, just send us an email with "Diabetes Cruise" in the subject line. THIS IS A ONCE IN A LIFETIME OPPORTUNITY! We will need a least 100 participants to make this happen. Send to publisher@diabetesincontrol.com

July 22, 7PM ET on CNBC

dLife explores the diabetes health-hazards of long-distance trucking, and how to overcome obstacles to treating and preventing diabetes on the road. Also, what's new in type 2 diabetes treatment options; a visit to a vet clinic to look at diabetes in the animal kingdom; and Chef Michel Nischan shows us a delicious Moroccan marinade that won't spike blood sugars. Tune in for another all-new 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:

Item #2: Reduced-carb or Low-fat Diet?

Item #4: Heart Care Below Par in Older Diabetics: Study

Item #6: Antihypertensive Medication Slows Atherosclerosis in Diabetes Patients

Item #7: Diabetes Associated With Increased Intracerebral Hemorrhage Risk

Item #9: Progression of Newly Diagnosed Impaired Fasting Glucose to Diabetes in 3 Years

Item #11: Dairy-Deficient Diet May Determine Diabetes Risk

Item #12: Steps, Steps and More Steps, It's All Good

Check out this weeks **"Test Your Knowledge"** question. This week's question deals with CGMS.

<http://www.diabetesincontrol.com/results.php?storyarticle=4973>

Dave Joffe, *Editor-in-Chief*

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>

NEWS FLASH:

Avandia Update –

More info, reports of 90% more cardiovascular events. See this week's Item #1

New Gene Found that increase risk for Type 1 diabetes!

See this week's Item #10

Tools for your Practice:

Identifying Children at Risk of Developing Metabolic Syndrome Print out this one pager to have for all your patients.

<http://www.diabetesincontrol.com/results.php?storyarticle=4974>

New Product:

DuraFresh* Toothpaste & Mouthwash



With Durafresh Whitening Toothpaste, brush away the odor causing bacteria.

With an aloe whitening, baking soda and stabilized CIO2 formula, you can feel the Durafresh difference. Not only does it clean deep and deodorizes breath with its specialized formula, it is also sugar free! **Benefits of CIO2 in Durafresh**

- Oxidizes single-cell organisms: bacteria, germs, viruses, fungi, spores, yeast, mold, and mildew.
- Eliminates all odors. CIO2 doesn't merely cover odors; it oxidizes the bonds in sulfur compounds that cause halitosis, destroying the cause of bad breath and odors at the molecular level.
- Safe for children. Used as recommended, it is non-toxic to human and animal tissue.
- Non-Carcinogenic, does not cause cancer.
- Non-Mutagenic; organisms can't mutate to destruction.
- Non-Allergenic; no allergic reactions recorded.
- Biodegradable. [Stop by our booth at AADE for a free sample.](#)

More information at www.zinnelle.net

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This Week's Items:

1. **Avandia Update July 07: New Information - Side Effects Tripled***
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<http://www.diabetesincontrol.com/results.php?storyarticle=4956>

ITEMS For The Week:

Item 1

Avandia Update July 07: New Information - Side Effects Tripled

In the month after a surprising analysis revealed possible heart risks from the diabetes drug Avandia, reports of side effects to federal regulators tripled.

<http://www.diabetesincontrol.com/results.php?storyarticle=4970>

The sudden spike is a sign that doctors probably were unaware of the drug's possible role in their patients' heart problems and therefore may not have reported many such cases in the past, several experts said.

Avandia is used to control blood sugar, helping more than 6 million people worldwide manage Type 2 diabetes. These people already are at higher risk for heart attacks, so news that the drug might raise this risk by 43 percent was especially disturbing.

In the 35 days after May 21, when the New England Journal of Medicine published the analysis on the Internet, reports of heart attacks, deaths and hospitalizations leaped. The sharp rise in reports of heart problems appears in data obtained by The Associated Press through a Freedom of Information Act request to the federal Food and Drug Administration.

Only five heart attacks were reported in the 35 days before the study, compared with 90 in the same period afterward. Heart-related hospitalizations went from 11 to 126. The reports involve rosiglitazone, sold as Avandia and Avandamet.

Reporting a drug's side effects is voluntary, and only a crude indication rather than a scientific measure of how many problems patients are actually having. The FDA relies on this unenforced system once a drug is on the

market. Critics say it leads to haphazard oversight in which problems can be missed because doctors don't connect the dots between a drug and symptoms they see in an individual patient.

The drug's manufacturer, British-based GlaxoSmithKline PLC, insists that the drug is safe and effective. "This is a very well-known phenomenon," where news reports lead to increased reporting, said company spokeswoman Mary Anne Rhyne. "It's good that there's awareness of the reporting system, but drawing conclusions on such data is inappropriate."

The FDA plans hearings on safety concerns about the drug on July 30. In the meantime, diabetes experts have advised users of the medication to talk to their doctors and not to immediately discontinue it.

The side effects reported range from as minor as a blister to as serious as sudden cardiac death. Most of the reports the AP reviewed seemed to involve serious side effects, and rosiglitazone was listed by the FDA as the "primary suspect" rather than other medicines the patient may have been taking.

There was a total of only 50 adverse event reports in January and 73 in February. From April 16 to May 21, when the study was published, 121 events were reported, including 11 deaths. In the 35 days after the study, 357 events were reported, including 38 deaths.

"You really can't infer anything about incidence rates from that," because the spike in reports is likely due to the "publicity effect" of the study, said Dr. David Graham, an FDA drug safety expert.

Dr. David Nathan, chief of diabetes care at Massachusetts General Hospital, agreed, saying it was "not conceivable" that only five people among the 1 million Americans taking Avandia had heart attacks in the month preceding the May 21 study, as the FDA reports suggest.

The issue has roiled the medical community and sparked congressional probes into whether the FDA is properly investigating safety issues. The FDA issued a "safety alert" about the drug only after the May 21 study came out, even though Glaxo had informed the agency of its own analysis of heart risks nearly a year beforehand and possibly as early as 2005.

Avandia's label warns about possible heart failure and other heart problems when taken with insulin. The drug also raises LDL, or bad cholesterol, and can cause fluid retention and weight gain.

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

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Item 2

Reduced-carb or Low-fat Diet?

For people with type 2 diabetes, it may not matter whether they cut fat or cut carbohydrates to trim down, as long as they lose weight, a small study suggests.

<http://www.diabetesincontrol.com/results.php?storyarticle=4969>

There was no significant difference in weight loss, blood sugar, or triglyceride levels between people with type 2 diabetes after 16 weeks on a low fat or low carbohydrate diet, Dr. Tracey McLaughlin of California's Stanford University and colleagues found.

Previous research has shown that low carb diets may be as effective as low fat diets, or more so, in helping people without diabetes lose weight, cut harmful triglycerides, and boost levels of "good" HDL cholesterol, McLaughlin and her team explain in the journal Diabetes Care.

To understand whether diet type might influence its effectiveness in people with diabetes, they randomly assigned 29 overweight people with type 2 diabetes to a 60 percent carbohydrate, 25 percent fat and 15 percent protein diet or a regimen including 40 percent carbohydrate, 45 percent fat, and 15 percent protein.

Four months later, men and women in the low fat diet group had lost 7 kilograms (15.4 lbs), compared to 5.9 kilograms (13 lbs) in those in the low carb diet group -- not a statistically significant difference. Both groups showed similar reductions in several measures of blood sugar, triglyceride levels, and insulin levels.

In a previous study, the researchers note, they found that people with insulin resistance but not full-blown diabetes fared better on a low carb diet, with greater reductions in "bad" LDL cholesterol, triglycerides and insulin levels.

But the current findings suggest, they add, that the variation in levels of carbohydrates, fats and protein investigated in the current study may be less relevant than the benefits of weight loss in itself for people who have type 2 diabetes. They call for further research to confirm their findings.

Diabetes Care, July 2007.

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DID YOU KNOW:

Obesity Rates Continue to Climb in the United States: The U.S. obesity prevalence increased from 13 percent to 32 percent between the 1960s and 2004, according to researchers at the Johns Hopkins Bloomberg School of Public Health Center for Human Nutrition. 66% of U.S. adults were overweight or obese in 2003-2004. Women 20–34 years old had the fastest increase rate of obesity and overweight. 80% of black women aged 40 years or over are overweight; 50% are obese. Asians have a lower obesity prevalence when compared to other ethnic groups. However, Asians born in the United States are four times more likely to be obese than their foreign-born counterparts. Less educated people have a higher prevalence of obesity than their counterparts, with the exception of black women. 16% of children and adolescents are overweight and 34% are at risk of becoming overweight in 2003-2004. See this week's Item #

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<http://www.diabetesincontrol.com/ads/atkins/dest.shtml>

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Item 3

Continuous Blood Glucose Monitoring Shows No Effect on Long-Term Control

A comparison of 2 continuous blood glucose monitoring (CBGM) devices indicates that neither machine is significantly better than either controls or the other device in helping to achieve long-term glucose control in insulin-treated patients with diabetes.

<http://www.diabetesincontrol.com/results.php?storyarticle=4968>

The new findings, from the Minimally Invasive Technology Role and Evaluation (MITRE) study, were presented at the American Diabetes Association 67th Scientific Sessions.

Stanton Newman, DPhil, from the University College London, England, stated that, "These findings were surprising to us because we thought that providing continuous blood glucose information would be helpful and would lead to improvements in HbA1c."

The researchers evaluated the efficacy of 2 minimally invasive CBGM devices in a study of more than 400 patients with type 1 or type 2 diabetes treated with insulin. Of the patients, 102 were randomly assigned to the *Continuous Glucose Monitoring System* (CGMS), manufactured by Minimed, and 100 patients were assigned to the *Biographer*, manufactured by Animas. The remaining patients were assigned to either a standard control group or an "attention" control group to control for the potential effect of increased contact with healthcare professionals in patients receiving CBGM.

The CGMS is connected via a wire to a subcutaneous sensor and can be worn for up to 72 hours, taking recordings every 5 minutes; the Biographer attaches to the skin and extracts fluid electro-osmotically for 12 to 15 hours, taking recordings every 10 minutes.

The primary endpoint was long-term glucose control, as indicated by changes in glycosylated hemoglobin (HbA1c) levels for 18 months. Patients entering into the study had a mean baseline HbA1c level ranging from 7.0% to 15.5%.

All 4 patient groups demonstrated a decline in mean HbA1c, especially during the first few months of the study. By month 18, the percentage of patients who had a relative reduction of at least 12.5% was 15% in the Biographer group, 27% in the CGMS group, 24% in the standard control, and 27% in the attention control group. The relative decline in HbA1c from baseline ranged from 1% to 4.6%.

None of these differences was significantly different from baseline or the results of the other groups. "These results suggest that the use of the CGMS conferred a small benefit, but only in the short term," the authors stated in their abstract. Furthermore, these short-term changes in the CGMS were not significant in comparison to the attention control group.

According to Dr. Newman, it is important to further establish whether specific subgroups of patients do show benefits with CBGM. "Future studies that are appropriately powered and designed are essential if we are going to understand the benefits or these devices or lack thereof," he noted.

According to Simon Heller, BA, MB BChir, DM, FRCP, professor of clinical diabetes and director of research and development with the Sheffield Teaching Hospitals Foundation Trust, in England, felt that, "many clinicians have not yet worked out how to use information generated by these devices, so it is to be expected that in this well-designed trial there would be no real effect.

"We need to learn more about how to use this new technology and, perhaps with pilot studies, explore the best way to help both patients and clinicians get the most out of the data generated," Dr. Heller added. "At the moment, these devices should be primarily used as research tools and should not be sold directly to patients."

Presented June 23, 2007. American Diabetes Association 67th Scientific Sessions: Abstract 0115-OR.

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Do you have patients who could benefit from an insulin pen with memory? HumaPen(r) MEMOIR for use with Humalog(r) (insulin lispro) is the first insulin pen with a memory that records date, time, and amount of the last 16 doses, including priming doses. As part of a multiple-daily injection regimen, your patients can gain greater flexibility. Depending on your patients' lifestyles, a Humalog(r) or Humalog(r) Mixture insulin may be prescribed. Find important safety and prescribing information on Humalog(r) and Humalog(r) Mixture insulins at http://ad.doubleclick.net/clk;108162532;16546285;e?http://www.humalog.com/hcp/humapen_memoir.jsp?ccd=humdtp16

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Item 4

Heart Care Below Par in Older Diabetics: Study

A low proportion of elderly individuals newly diagnosed with type 2 diabetes receive heart-protecting drugs like aspirin, blood pressure-lowering drugs and cholesterol-lowering drugs, according to a new study.

<http://www.diabetesincontrol.com/results.php?storyarticle=4967>

People with diabetes are at increased risk for developing heart and vascular disease. The results of the current study suggest that the management of cardiovascular risk for type 2 diabetes patients is "less than appropriate," the study team concludes in the journal *Diabetes Care* this month.

In a study of more than 12,000 patients, the researchers found that only about 22 percent received a heart-protecting anti-clotting drug like aspirin in the year after anti-diabetes medication was begun. Only about 40 percent received an antihypertensive and 21 percent received a cholesterol-lowering drug, the investigators report.

Only 7.6 percent received a comprehensive cardioprotective regimen including all three types of medication, they found.

Study investigator Dr. Jean-Pierre Gregoire, from Laval University, Quebec City, stated that, "Treating a diabetic person is important. However, controlling (blood sugar) should not be the only treatment goal even in people aged 65 years or over."

Gregoire suggested that doctors "may not be sufficiently aware of the benefits of treating elderly individuals with diabetes using cardioprotective medications. Given their life-expectancy, these individuals can also benefit from pharmacologic cardiovascular protection," the researcher said.

"Elderly individuals with diabetes should also be sensitized to the fact that, relative to those who don't suffer from diabetes, they have an increased cardiovascular risk," Gregoire added.

He noted that the number of type 2 diabetics is likely to increase in this age group in the next decade. "If the actual situation continues to prevail, in the future the suboptimal use of medications in elderly type 2 diabetics may entail substantial healthcare resources," Gregoire concluded.

Diabetes Care July 2007.

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FACT:

Bill on Drug Safety, FDA Funding Clears U.S. House: The U.S. House of Representatives voted last Wednesday to give the Food and Drug Administration more power over drugmakers as part of an effort to better protect the public from dangerous medicines.

The FDA could require post-approval studies of new prescription drugs or order additional warnings under the legislation. Companies that fail to follow FDA directives could face fines as high as \$50 million. Running a false or misleading advertisement to consumers could draw fines of \$250,000.

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Item 5

Mixed Results for Inhaled Insulin for Type 2 Diabetes

Preprandial inhaled insulin can improve blood glucose control for people with type 2 diabetes who have not had good results with short-acting injected insulin, according to a new review of the body of published research.

<http://www.diabetesincontrol.com/results.php?storyarticle=4966>

People who use insulin to manage their type 2 diabetes typically have to take extra insulin at mealtimes to regulate the glucose response to food. They can use short-acting injected insulin or inhaled insulin.

The review examined several clinical issues surrounding the use of inhaled insulin by patients with type 2 diabetes. It looked at how inhaled insulin compares to injected insulin as a mealtime insulin supplement for

patients who are already using injected insulin daily.

The report also compared use of inhaled insulin by type 2 diabetes patients who had not previously taken insulin in any form. Inhaled insulin was compared to the effectiveness of oral antidiabetic drugs used alone and to antidiabetic drugs used with inhaled insulin.

In patients with type 2 diabetes, inhaled insulin worked as well as short-acting injected insulin to control blood glucose over 3 months, according to the review. However, inhaled insulin users had more trouble controlling low blood glucose -- hypoglycemia --a common complication of diabetes medication.

Among patients who had not previously taken insulin in any form, inhaled insulin alone was more effective than oral diabetes medication at controlling blood glucose levels at the three-month follow-up. When patients took oral medication plus inhaled insulin, higher rates of hypoglycemia occurred.

The Windows on Medical Technology report is published by ECRI Institute, an independent nonprofit health services research agency that researches the best approaches to improving patient care. Jonathan Treadwell, PhD, senior research analyst at ECRI Institute, led a team of investigators who analyzed eight studies encompassing 1,881 patients with type 2 diabetes to make the comparisons between inhaled insulin, injected insulin, and oral medication regimens.

Despite some positive findings, the authors write, "the evidence regarding inhaled insulin for patients with type 2 diabetes is still insufficient to answer many key clinical questions" such as patient satisfaction, inhaled insulin's effect on other complications of diabetes, on weight gain, and very importantly, the long-term effects on lung function.

"One detail to note about inhaled insulin — the dosing is not as precise as with injections because specific increments in doses are not as precise," Treadwell said.

Its convenience makes inhaled insulin an attractive option, although it may not be the right medication for every diabetes patient who needs insulin.

According to the American Diabetes Association it is unclear if delivering insulin through the lungs could result in long-term respiratory problems.

"This is the reason for resistance by doctors and patients to inhaled insulin -- long-term lung damage," Treadwell said. "It's a valid concern since it is suspected that people with diabetes already have lung problems -- the concern is that this form of administration would exacerbate these problems."

"It's too early to say if inhaled insulin could be used to the extent that injected insulin is -- our review only covered 6 month follow-up because that's the only data currently available. The question is: Could it provide long-term glucose control without damaging effects?" Treadwell said.

Treadwell J, et al. Inhaled insulin for the treatment of type 2 diabetes. Windows on Medical Technology July 2007 Issue No. 146.

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Item 6

Antihypertensive Medication Slows Atherosclerosis in Diabetes Patients

Treating hypertension aggressively in people with diabetes becomes even more important. The higher the systolic blood pressure the greater the rate of progression in the carotid intima-media thickness (CIMT)

<http://www.diabetesincontrol.com/results.php?storyarticle=4965>

A group of investigators led by Dr Wendy Mack of the University of Southern California, Los Angeles, USA, assessed whether the use of antihypertensive medication affects carotid intima-media thickness (CIMT) in patients with type 2 diabetes.

A total of 276 patients (90 men, 186 women) who had participated in the Troglitazone Atherosclerosis Regression Trial (TART) and had been evaluated for CIMT at baseline with 1 or more follow-up measurements were included. Change in CIMT, hypertension treatment, and blood pressure were recorded over a 2-year period. High-resolution B-mode carotid artery ultrasound was used to measure CIMT. The primary endpoint of this post hoc cohort analysis was the annual rate of change in CIMT.

The investigators found that 184 patients (67%) used antihypertensive medication during the trial. The median duration of use was 1.8 years (range 0.02-2.2 years). Overall, higher systolic blood pressure was associated with a higher rate of progression in CIMT ($p=0.03$).

Antihypertensive treatment lessened this association in a duration-dependent manner (p for interaction= 0.035), even after adjustment for age, treatment, and change in fasting glucose during the trial.

The investigators concluded that regular use of antihypertensive medication slowed the progression of atherosclerosis in patients with type 2 diabetes.

American Journal of Cardiology 2007;99:956-60

Glucose, and Impaired Glucose Tolerance. The Australian Diabetes, Obesity, and Lifestyle Study (AusDiab), E.L.M. Barr MPH, P.Z. Zimmet PhD, T.A. Welborn PhD, D. Jolley MSc, D.J. Magliano PhD, D.W. Dunstan PhD, A.J. Cameron MPH, T. Dwyer MD, H.R. Taylor MD, A.M. Tonkin MD, T.Y. Wong PhD, J. McNeil PhD, and J.E. Shaw MD

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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

Diabetes Associated With Increased Intracerebral Hemorrhage Risk

Patients with diabetes appear to be at a 3- to 4-fold increased risk of intracerebral hemorrhage (ICH) compared with patients without diabetes.

<http://www.diabetesincontrol.com/results.php?storyarticle=4964>

The findings come from a population-based study and the association was especially strong in black patients younger than 55 years, the researchers found.

The findings were presented by Brett Kissela, MD, associate professor of neurology at the University of Cincinnati, Ohio, at the American Diabetes Association 67th Scientific Sessions. Dr. Kissela stated that, "The degree of risk changes substantially with age — and diabetes appears to be a more powerful mediator of risk for ICH at younger ages." "We have also previously found this to be true for ischemic stroke as well."

According to the researchers, however, many studies have failed to demonstrate an association between diabetes and ICH, despite the fact that DM is associated with many risk factors that can increase ICH risk.

To further evaluate this issue, the researchers assessed data sets from 2 time periods (one data set from 1993 to 1994 and one from 1999) in a population-based study of more than 1.35 million residents of 5 counties. Cases of ICH that occurred during the study period were noted, and medical records were abstracted for each case.

A total of 258 cases of ICH developed during the 1993 to 1994 study period, and 313 developed during the 1999 study period. Among patients with incident ICH, 13% and 21%, respectively, had DM. During both study periods, blacks were significantly more likely than whites to develop ICH at younger age: 63 vs 70 years in 1993 to 1994 ($P = .002$) and 61 vs 70 years in 1999 ($P = .0002$).

A pooled analysis of results from both study periods indicated that among black patients younger than 55 years, 50 patients per 100,000 developed ICH, and of those, 40 had DM and 10 did not, indicating a risk ratio of 4.0 (95% confidence interval [CI], 1.5 – 8.4). Among white patients younger than 55 years, the risk ratio was 2.8 (95% CI, 1.1 – 6.2), and the ratio remained similar as age increased (2.5, 1.2, and 1.8 for the 55- to 64-year, 65- to 74-

year, and =75-year age groups, respectively). However, among black patients, the rate ratios declined with age (1.4, 0.7, and 0.6 for the 55- to 64-year, 65- to 74-year, and =75-year age groups, respectively), suggesting a strong influence for young age on the association between DM and ICH.

"Our results demonstrate why DM has been thought not increase the risk of ICH," noted Dr. Kissela. "When viewed over the lifespan, this higher risk in younger patients is mitigated by the lower risk in older age groups, especially among black patients. However, our population-based study was large enough to collect a large number of ICH cases over the 2 study periods and thus allowed us to evaluate the risk in an age- and race-specific fashion."

Ralph Sacco, MD, professor and chairman of the Department of Neurology at the University of Miami, Florida, noted that the findings are feasible, because many of the macrovascular and microvascular complications associated with diabetes could be expected to increase stroke risk.

"These findings add to our knowledge of ICH risk in this population and underscore the need for clinicians to prevent these and other complications of diabetes through adequate glycemic control, with particular awareness about which subgroups might be at increased risk."

Dr. Kissela also pointed out that most patients have little knowledge about the symptoms/signs that accompany stroke or of the need to get immediate medical attention by calling 911. Tissue plasminogen activator, for example, can be given within 3 hours of a stroke, and similar treatments are being developed for ICH. "Patients with DM should be made aware of this information."

Presented June 23, 2007. at the American Diabetes Association 67th Scientific Sessions: Abstract 0687-P.

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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

Antihyperglycemic Agents Have No Effect on All-Cause Mortality

No single agent or combination of oral antihyperglycemic agents has any significant effect on all-cause mortality, according to a new study.

<http://www.diabetesincontrol.com/results.php?storyarticle=4963>

Those findings come from a study of diabetics in the Veterans Health Administration (VHA), led by Dr. Kristijan H. Kahler of the VA New Jersey Health Care System in East Orange, and Novartis Pharmaceuticals in East Hanover, New Jersey, and are published in the July issue of Diabetes Care.

The team has been studying 39,721 diabetics divided into groups according to oral antihyperglycemic therapy: sulfonylurea monotherapy, metformin monotherapy, metformin plus sulfonylurea, thiazolidinedione (TZD) monotherapy or in combination with other oral agents (TZD users), and a group on no drug therapy.

The primary outcome measure was all-cause mortality.

The VHA study has been ongoing since 1996. During its first decade, the adjusted odds ratios for all-cause mortality were 0.87 for metformin monotherapy users, 0.92 for metformin plus sulfonylurea users, and 1.04 for TZD users, relative to sulfonylurea monotherapy users.

"We did not find any significant drug effect on all-cause mortality for any oral treatment cohorts relative to sulfonylurea oral monotherapy," Dr. Kahler and associates report.

"Future work should assess whether long-term exposure to oral antihyperglycemic medications reduces all-cause or cause-specific mortality," the investigators note.

Diabetes Care 2077;30:1689-1693.

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FACT:

Anti-Malarial Drug May Reduce Risk of Diabetes: for Patients with Rheumatoid Arthritis Preliminary research suggests that use of the anti-malarial drug hydroxychloroquine may help reduce the risk of the development of diabetes in patients with rheumatoid arthritis. See this week's Item #

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Item 9

Progression of Newly Diagnosed Impaired Fasting Glucose to Diabetes in 3 Years

On average, a person newly diagnosed with elevated fasting blood sugars above 100mg/dL progresses to diabetes within less than 3 years. Telling patients with prediabetes to watch what they eat and exercise and come back next year, doesn't work! More aggressive therapy is needed.
<http://www.diabetesincontrol.com/results.php?storyarticle=4962>

In the study they sought to estimate the rate of progression from newly acquired (incident) impaired fasting glucose (IFG) to diabetes under the old and new IFG criteria and to identify predictors of progression to diabetes.

They identified 5,452 members of an HMO with no prior history of diabetes, with at least two elevated fasting glucose tests (100-125 mg/dl) measured between 1 January 1994 and 31 December 2003, and with a normal fasting glucose test before the two elevated tests. All data were obtained from electronic records of routine clinical care. Subjects were followed until they developed diabetes, died, left the health plan, or until 31 December 2005.

From the results they found that overall, 8.1% of subjects whose initial abnormal fasting glucose was 100-109 mg/dl (added IFG subjects) and 24.3% of subjects whose initial abnormal fasting glucose was 110-125 mg/dl (original IFG subjects) developed diabetes (P < 0.0001). Added IFG subjects who progressed to diabetes did so within a mean of 41.4 months, a rate of 1.34% per year. Original IFG subjects converted at a rate of 5.56% per year after an average of 29.0 months. A steeper rate of increasing fasting glucose; higher BMI, blood pressure, and triglycerides; and lower HDL cholesterol predicted diabetes development.

These are the first estimates of diabetes incidence from a clinical care setting when the date of IFG onset is approximately known under the new criterion for IFG. The older criterion was more predictive of diabetes development. Many newly identified IFG patients progress to diabetes in <3 years, which is the currently recommended screening interval.

Diabetes Care. 2007; 30(2):228-33

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Item 10

New Type 1 Diabetes Gene Found In Children

A team of scientists in the US and Canada have discovered a gene variant that is thought to increase a child's risk for type 1 diabetes.

<http://www.diabetesincontrol.com/results.php?storyarticle=4961>

More and more scientists are investigating the genetics of type 1 diabetes and the hope is this will lead to ways of preventing and treating the disease.

Senior author of the study, and director of Pediatric Endocrinology at McGill University, Dr Constantin Polychronakos said that it may one day be possible to predict which children are at high risk of type 1 diabetes by screening babies when they are born.

Since the unravelling of the human genome a few years ago, a new method called genome wide association (GWA) has emerged, where specialists in genetic research scan the DNA of patients and search over 500,000 genes for markers of disease.

In this study, pediatrics researchers at The Children's Hospital of Philadelphia and McGill University in Montreal conducted such a search and discovered a new gene called KIAA0350 which sits on chromosome 16, that appears to play an important role in the development and maintenance of type 1 diabetes. They are carrying on with the project because they think this gene is only one of many that work together to wipe out the insulin producing cells. There could be as many as 15 or 20, they said in a prepared statement about their work.

Lead author of the study, director of the Center for Applied Genomics at The Children's Hospital of Philadelphia, Dr Hakon Hakonarson said:

"The genotyping technology we now have available has revolutionized the way we can ask and answer research questions."

"Unlike the previous technology, which was quite limited and dealt largely with relatively rare gene variants, we can now detect common genetic variants that are important in large numbers of individuals, and begin to understand how multiple genes interact in complex diseases such as diabetes," added Hakonarson.

Hakonarson and colleagues scanned the genomes of 1,046 children with type 1 diabetes. They had access to DNA samples of patients and their families attending pediatric diabetes clinics in Philadelphia in the US, and four cities in Canada.

They then compared the genomes of 563 type 1 diabetes patients with those of 1,146 matched controls (children without the disease). The results were combined with those from another independent search of 483 children and both parents, where the genomes of all three family members were scanned in each case.

The scientists found four locations where genes linked to type 1 diabetes were already known to exist. But they also discovered a new locus on chromosome 16, occupied by KIAA0350. They verified their results by repeating the analysis on a cohort of 1,333 children with type 1 from the Type 1 Diabetes Genetics Consortium and another 390 family trios based in Canada. The Type 1 Diabetes Genetics Consortium includes children of European descent in Europe, North America and Australia.

Scientists already know that KIAA0350 plays an important role in immune cells, but what they don't know exactly is what the protein that the gene encodes does. Some research suggests the gene codes for a protein called C-type lectin that binds to sugars and lives on the surface of immune cells.

Hakonarson emphasized that KIAA0350 has to be investigated to find out exactly what it does. He said that scientists know that natural killer cells (NKs) express this gene, some more abundantly than others depending on the gene variant.

"Our hypothesis is that a special mutation in KIAA0350 may influence the sugar binding of the protein, and trigger an autoimmune response that activates these NK cells in such a way that they attack and destroy the islet cells in

the pancreas, resulting in type 1 diabetes," explained Hakonarson.

The researchers said their hunch is that one variant of the gene encourages the destruction of the pancreatic insulin producing cells, while another variant stops it.

The study is published in the advanced online publication of the journal *Nature*.

"A genome-wide association study identifies KIAA0350 as a type 1 diabetes gene."

Hakon Hakonarson, Struan F. A. Grant, Jonathan P. Bradfield, Luc Marchand, Cecilia E. Kim, Joseph T. Glessner, Rosemarie Grabs, Tracy Casalunovo, Shayne P. Taback, Edward C. Frackelton, Margaret L. Lawson, Luke J. Robinson, Robert Skraban, Yang Lu, Rosetta M. Chiavacci, Charles A. Stanley, Susan E. Kirsch, Eric F. Rappaport, Jordan S. Orange, Dimitri S. Monos, Marcella Devoto, Hui-Qi Qu NS Constantin Polychronakos.
Nature: Published online 15 July 2007.
doi:10.1038/nature06010

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Item 11

Dairy-Deficient Diet May Determine Diabetes Risk

A lack of vitamin D and calcium in the diet may increase the risk for the metabolic syndrome and type 2 diabetes in patients with impaired glucose tolerance, nutrition researchers found.

<http://www.diabetesincontrol.com/results.php?storyarticle=4960>

In contrast, people who ate dairy-rich diets had about a 30% lower risk for the metabolic syndrome, and about a 15% lower risk for type 2 diabetes than those who got little dairy in the diet, the investigators wrote in the June issue of the *Journal of Clinical Endocrinology & Metabolism*.

"Although the evidence to date suggests that vitamin D and calcium deficiency influences postprandial glycemia and insulin response while supplementation [with both nutrients] may be beneficial in optimizing these processes," said Anastassios G. Pittas, M.D., M.Sc., of Tufts-New England Medical Center here, and colleagues.

There is evidence to suggest that vitamin D and calcium may have direct or indirect effects on the function of insulin-secreting beta cells of the pancreas, or on insulin action in tissues, the authors said, noting that it's "not clear whether the effects are additive or synergistic."

To further explore the question, the investigators reviewed the medical literature and performed a meta-analysis to determine the association between vitamin D and calcium levels and diabetes risk, and to see whether supplementation with the nutrients could improve glucose metabolism.

They found that in observational studies the odds ratio for type 2 diabetes occurrence among non-blacks with the highest vs. lowest levels of 25-hydroxyvitamin D was 0.36 (95% confidence interval, 0.16-0.80). The odds ratio for occurrence of the metabolic syndrome for the highest versus lowest levels of dairy intake was 0.71 (95% CI, 0.57-0.89).

The authors also detected inverse associations between vitamin D and/or calcium intake with incident type 2 diabetes and the metabolic syndrome. For example, the odds ratio for incident diabetes was 0.82 (95% CI, 0.72-0.93) for the highest versus the lowest levels of combined vitamin D and calcium intake, and 0.86 (95% CI 0.79-0.93) for the highest levels of dairy intake compared with the lowest levels.

Evidence from trials with vitamin D and/or calcium supplementation suggests that combined supplementation may have a role in the prevention of type 2 diabetes, but only in populations at high risk, that is, those with glucose intolerance, the investigators said.

"The available evidence is limited," they said, "because most observational studies are cross-sectional and did not adjust for important confounders, whereas intervention studies were short in duration, included few subjects, used a variety of formulations of vitamin D and calcium, or did *post hoc* analyses."

Practice Pearl: *Explain to patients that, in addition to being essential for bone health, dietary vitamin D and calcium, abundant in fortified milk and other dairy products, may help to reduce the risk for type 2 diabetes by improving how the body metabolizes glucose. And also that the currently recommended intakes of vitamin D and calcium may not be sufficient.*

Journal of Clinical Endocrinology & Metabolism 2007; 92: 2017-2029. Pittas AG et al. "The Role of Vitamin D and Calcium in Type 2 Diabetes. A Systematic Review and Meta-Analysis."

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DID YOU KNOW:

Link Between Carbohydrate Quality and Vision Loss is Strengthened by New Data: Age-related macular degeneration (AMD) and its associated vision loss may be connected to the quality of carbohydrates an individual consumes.

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Item 12

Steps, Steps and More Steps, It's All Good

Study showed that high-intensity interval walking can protect against diabetes, prediabetes, high blood pressure and decreased muscle strength among older people. What does it cost? Nothing!

<http://www.diabetesincontrol.com/results.php?storyarticle=4959>

These days, it's easy for people to get confused about exercise -- how many minutes a day should they spend working out, for how long and at what exertion level? Conflicting facts and opinions abound, but one Mayo Clinic physician says the bottom line is this: walking is good, whether the outcome measurement is blood pressure, diabetes, cardiovascular disease, joint problems or mental health.

"Getting out there and taking a walk is what it's all about," says James Levine, M.D., Ph.D., and a Mayo Clinic expert on obesity. "You don't have to join a gym, you don't have to check your pulse. You just have to switch off the TV, get off the sofa and go for a walk."

The health benefit associated with walking is the subject of Dr. Levine's editorial in the July issue of *Mayo Clinic Proceedings*. Dr. Levine's piece is entitled, "Exercise: A Walk in the Park?" and accompanies a Proceedings article that showcases the merits of walking as beneficial exercise.

The study, undertaken by physicians from the Shinshu University Graduate School of Medicine in Matsumoto, Japan, determined that high-intensity interval walking may protect against high blood pressure and decreased muscle strength among older people.

Over five months, the Japanese researchers studied 246 adults who engaged in either no walking or moderate to high-intensity walking. The group who engaged in high-intensity walking experienced the most significant improvement in their health, the researchers found.

In his editorial, Dr. Levine says the study lends credence to the notion that walking is a legitimate, worthy mode of exercise for all people. Dr. Levine says it's a welcome message for his patients, who fight obesity and appreciate that a walk is one way to improve their health.

Unlike a health club membership or personal trainer, walking "is there for everyone," Dr. Levine says. "Walking doesn't cost you anything, you can do it barefoot and you can do it now, this minute."

“Sitting is bad for cholesterol, it’s bad for your back and muscles,” Dr. Levine says. “It’s such a terrible thing for our bodies to do and the less of it you do, the better. But activity is not easy. If it were easy, everyone would do it.”

Authors for the study in Mayo Clinic Proceedings on high-intensity walking were Ken-Ichi Nemoto; Hirokazu Gen-No, Ph.D.; Shizue Masuki, Ph.D.; Kazunobu Okazaki, Ph.D.; and Hiroshi Nose, M.D., Ph.D., all from the Shinshu University Graduate School of Medicine.

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Item 13

Link Between Carbohydrates and Vision Loss

People consuming diets with a higher glycemic index than average were at greater risk of developing advanced age-related macular degeneration (AMD). The researchers suggest that 20 percent of cases of advanced AMD might have been prevented if individuals had consumed a diet with a glycemic index below average.

<http://www.diabetesincontrol.com/results.php?storyarticle=4958>

Age-related macular degeneration (AMD) and its associated vision loss may be connected to the quality of carbohydrates an individual consumes. In a study published in the July issue of the *American Journal of Clinical Nutrition*, Allen Taylor, PhD, director of the Laboratory for Nutrition and Vision Research at the Jean Mayer USDA Human Nutrition Research Center on Aging (USDA HNRCA) at Tufts University, confirmed earlier findings linking dietary glycemic index with the risk of developing AMD.

“Men and women who consumed diets with a higher glycemic index than average for their gender and age-group were at greater risk of developing advanced AMD,” corresponding author Taylor says. “The severity of AMD increased with increasing dietary glycemic index.”

Glycemic index is a scale applied to foods based on how quickly the carbohydrates in foods are converted to blood sugar, or glucose. Foods like white rice, pasta and bread are examples of foods with a high-glycemic-index, meaning that these foods are associated with a faster rise and subsequent drop in blood sugar. Whole wheat versions of rice, pasta and bread are examples of foods that have a low-glycemic-index. These foods are often considered higher quality carbohydrates because they are associated with a slower and less dramatic rise and fall of blood sugar.

“Our results build upon findings from an earlier, smaller study in which we determined that consuming a diet with a high glycemic index, but not one with a high total amount of carbohydrate, increased the risk of developing early AMD,” says first author Chung-Jung Chiu, DDS, PhD, scientist in the Laboratory for Nutrition and Vision Research at the HNRCA and an assistant professor at Tufts University School of Medicine.

In the current study, Taylor, Chiu, and colleagues analyzed data from 4,099 men and women participating in the nationwide Age-Related Eye Disease Study (AREDS). Detailed dietary histories were obtained at the start of the study when participants were 55 to 80 years of age and had varying degrees of AMD. The AREDS was designed to assess the effect of high-dose antioxidant vitamins and zinc on the progression of AMD and cataracts, two of the leading causes of vision loss in older adults.

“Although carbohydrate quality was not the main focus in the AREDS, we were fortunate that the investigators had collected the dietary carbohydrate information we needed to do our analyses,” says Taylor. “Our findings suggest that 20 percent of the cases of advanced AMD might have been prevented if those individuals had consumed a diet with a glycemic index below the average for their age and gender,” notes Taylor.

AMD typically occurs after middle age, although the events which cause it may begin earlier. A leading cause of irreversible blindness, AMD results from the gradual breakdown of light-sensitive cells in the central region of the eye’s retina, called the macula. Although there is no effective therapy for AMD, dietary intervention may delay its progress. Identifying modifiable risk factors for AMD is becoming increasingly important as the population ages. As Taylor and colleagues point out, the number of people in the US with visually impairing AMD is expected to double and reach three million by 2020.

“Our results support our hypothesis,” says Taylor, “that dietary glycemic index, which has been related to the risk of diabetes, is also associated with the risk and severity of AMD.” Taylor speculates that carbohydrates that comprise a high-glycemic-index diet may provide eye tissue with too much glucose too quickly, and overwhelm the ability of the eye cells to use the carbohydrate properly. “It is possible that the type of damage produced by poor quality carbohydrates on eye tissue is similar in both diabetic eye disease and AMD.”

Taylor and colleagues conclude that the risk for AMD may be diminished by improving dietary carbohydrate quality, as defined by dietary glycemic index. This may be achieved by relatively simple dietary alterations, such as replacing white bread with whole grain bread. "However," Taylor cautions, "additional studies are needed before we can recommend dietary carbohydrate management as a prevention strategy for AMD."

Chiu C-J, Milton RC, Gensler G, Taylor A. American Journal of Clinical Nutrition. 2007 (July); 86(1):180-188. "Association between dietary glycemic index and age-related macular degeneration in nondiabetic participants in the Age-Related Eye Disease Study."

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FACT:

Few Children Walk or Bike Even Short Distances to School: Martin and colleagues studied a nationally representative sample of more than 7,000 children ages 9 to 15 and their parents. They found that almost 35 percent of these children lived within a mile of their schools. Children ages 11 to 13 were more likely to bike or walk than 9-year-olds, they found. *Martin SL, Lee SM, Lowry R. National prevalence and correlates of walking and bicycling to school. Am J Prev Med 33(2), 2007.*

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Item 14

Anti-Malarial Drug Reduces Risk of Diabetes by 77%

Preliminary research suggests that use of the anti-malarial drug hydroxychloroquine may help reduce the risk of the development of diabetes.

<http://www.diabetesincontrol.com/results.php?storyarticle=4957>

Type 2 diabetes mellitus affects nearly 8 percent of US adults, and its prevalence has been increasing. Antimalarials such as hydroxychloroquine, a long-standing safe and inexpensive treatment for an autoimmune disease such as rheumatoid arthritis, theoretically may improve glucose tolerance and prevent diabetes mellitus, according to background information in the article. In vitro and animal studies indicate that antimalarials improve insulin secretion and peripheral insulin sensitivity.

Mary Chester M. Wasko, M.D., M.Sc., of the University of Pittsburgh, Pa., and colleagues examined the association between hydroxychloroquine therapy and risk of diabetes in patients with rheumatoid arthritis. The study included 4,905 adults with rheumatoid arthritis (1,808 had taken hydroxychloroquine and 3,097 had never taken hydroxychloroquine) with no initial diagnosis or treatment for diabetes, with 21.5 years of follow-up (Jan. 1983 through July 2004).

During the observation period, incident diagnoses of diabetes were reported by 54 patients who had taken hydroxychloroquine and by 171 patients who had never taken it. Analysis indicated that patients who had taken hydroxychloroquine had a 38 percent lower risk of developing diabetes, compared with those who had not taken hydroxychloroquine. This risk was further reduced with increased duration of hydroxychloroquine use. Patients who took hydroxychloroquine for more than four years had a 77 percent lower risk of diabetes compared with those who had never taken hydroxychloroquine.

"We report herein the first evidence, to our knowledge, suggesting that use of hydroxychloroquine is associated with a reduced risk of developing diabetes in patients with rheumatoid arthritis," the authors write. "Moreover, risk reduction increased with duration of hydroxychloroquine exposure, supporting a biological action of this drug on glucose metabolism."

"While our study showed a reduction in diabetes incidence specifically in a rheumatoid arthritis cohort taking hydroxychloroquine, these findings also may be expected to occur in patients without rheumatoid arthritis. The beneficial changes in glucose metabolism and insulin sensitivity reported among patients with lupus, patients with type 2 diabetes, and in animal models suggest that these effects are not specific to rheumatoid arthritis."

"Antimalarial drugs may have a role in treating rheumatoid arthritis not only to suppress synovitis [inflammation around the joints] but also to reduce the likelihood of developing glucose intolerance and dyslipidemia [abnormal concentrations of lipids]. As quality of life and life expectancy improve for patients with rheumatoid arthritis, and health care costs escalate, the use of inexpensive, safe therapies that have multiple beneficial effects is attractive. Further prospective studies are needed to determine whether this treatment option should be considered a standard component of rheumatoid arthritis combination therapy in the future, and to evaluate the potential role of

hydroxychloroquine as a preventive agent for diabetes among high-risk individuals in the general population," the researchers conclude.

JAMA. 2007;298(2):187-193.

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Item 15

Obesity Rates Continue Relentless Climb- 100% Increase in 25 Years

An astonishing doubling in American obesity took place in the two decades after the nation's bicentennial, epidemiologists reported. Within eight years, 75% of adults will be obese or overweight.

<http://www.diabetesincontrol.com/results.php?storyarticle=4956>

In 1976, about 15.1% of Americans were obese, which rose to 30.9% by 2000, Youfa Wang, Ph.D., M.D, and May A. Beydoun, M.A., of Johns Hopkins reported in *Epidemiologic Reviews* on the basis of a meta-analysis.

The epidemic reached the stage by 2004 that 37.2% of Americans were obese or extremely obese, they added. The increase in obesity climbed from 13% to 32% over the past three decades.

From the 1960s to 2004, the prevalence of obesity and overweight in the U.S. has increased at an average rate of 0.3 to 0.9 percentage points across different sociodemographic groups, according to the meta-analysis.

If the trend continues, 75% of adults will be overweight or obese by 2015, 41% will be obese, and nearly a quarter of children and adolescents are expected to be overweight or obese.

The authors searched studies published from 1990 to 2006.

Adult overweight and obesity were defined by using body mass index cutpoints of 25 kg/m² and 30 kg/m², respectively. Childhood "at risk for overweight" and overweight were defined as the 85th and 95th percentiles of BMI.

Among adults, obesity prevalence increased 2.5-fold (13% to 32%) from the 1960s to 2004. Currently, approximately two-thirds (66.3%) of adults are overweight or obese; 32.4% are obese, and 4.8% are extremely obese (BMI = 40kg/m²), the researchers reported.

Of children and adolescents, 16% are currently overweight and 34% are at risk of overweight.

Minority and low-socioeconomic-status groups were disproportionately affected at all ages, Dr.Wang reported.

Non-Hispanic Blacks had the highest prevalence, while minority groups (non-Hispanic Blacks and Mexican Americans) had a higher combined prevalence than non-Hispanic Whites by almost 10 percentage points.

Among non-Hispanic Black women 40 years or older, more than 80% were overweight or obese, and more than 50% were obese.

In 1999-2002, the prevalence of extreme obesity among African-American women was more than twice that among white and Mexican-American women (13.5% versus 5.5% and 5.7%).

Prevalence also varied across states. In general, states in the southeast have higher prevalence rates than states on the west coast, in the midwest, and in the northeast.

Epidemiologic Reviews 2007; Wang Y, et al. "The Obesity Epidemic in the United States -- Gender, Age, Socioeconomic, Racial/Ethnic, and Geographic Characteristics: A Systematic Review and Meta-Regression Analysis"

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Quote of the Week!

“Your Future Health is Determined by Today’s Choices”

..... Steve Freed, R.PH. Diabetes Educator, Publisher

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Richard K. Bernstein's New Book, Diabetes Solution 2007 is available. Containing new and revised information, this new book is on special at <http://www.diabetes911.net>. Also Dr. Bernstein's New 5 CD Set "Secrets to Normal Blood Sugars" is available. Recorded Individually For Type 1 and Type 2 Diabetes, These "LIVE" 5 CD Sets Contain The Personal Diabetes Education Program taught by Dr. Bernstein to his patients.

LIVE WEBCAST:

Dr. Bernstein will participate in another 60 minute Tele-Seminar on August 8, 2007, at 7:00 PM CST, 8:00 PM EST and 5:00 PM West Coast time, that we invite you to attend, and ask your patients to attend. In addition to calling in, this upcoming call will also be broadcast through a LIVE web-cast on the Internet. Don't miss it. Click here to register for this free teleconference.
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