(This Newsletter is not affiliated with the American Diabetes Association)
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DIABETES IN CONTROL.com NEWSLETTER
The Newsletter for Professionals in Diabetes Care

September 17, Issue #173

From the Editor's Desk:

Did you know that Hypothyroidism is the most common secondary cause of hyperlipidemia? Jennal Johnson, MS, BC-ADM, FNP, RNC, CDE helps us understand this and other points in her power point explaining the relationship between Diabetes and Thyroid Disease.

Dr. Rosen joins us this week with his feature: The Straight Dope on Endocannabinoids

The Neuragen™ PN - Effectiveness Feedback Study—is full. Selected participants will be contacted this week

Leona J. Dang-Kilduff, RN, MSN, CDE has made the Updates In Sweet Success: Diabetes and Pregnancy fall issue available for your review. There is some great info in there that we can use in our practices.

For an update and answers to most of your questions regarding the Feature we did on INGAP Possible Cure for Diabetes http://www.gmpcompanies.com/html/core/index.html Phase 2 announcement coming soon. New centers will be selected.

This week's overview:

Check out this weeks "Test Your Knowledge" question. Click Here

Dave Joffe, *Editor-in-Chief*

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NEWS FLASH:
Two commonly prescribed diabetes drugs may cause heart failure and fluid buildup, researchers report. See Item#5
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Study--CLOSED Neuragen™ PN - Effectiveness Feedback Study. Selected participants will be contacted this week.
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New Product: GLUCOBOY MOVES CLOSER TO REALITY
GLUCOBOY® is a glucose meter that can be inserted into a Nintendo GAMEBOY®. GLUCOBOY® carries an essential dual role, providing accurate medical diagnosis for the disease as well as an incentive delivery platform which serves as a key portal for obtaining patient-critical medical data; the foundation for fully automated, individualized, disease management program.

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Tools for your Practice: Weight and Inches loss measuring chart. Our patients often get frustrated with their attempts to reduce weight and give up. This chart helps them to see that inches are as important as weight. Click here to get your copy for patients.

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This newsletter is the condensed version. If you would like to see the full newsletter go to
http://www.diabetesincontrol.com/Issue173ndex.htm

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This Week's Items:

ITEMS For The Week:

Item 1
Diabetes Incidence Jumps 50 Percent in Past 10 Years-Obesity Rates Climbing
59% don't know their risk for diabetes

In a recent ADA survey, an alarming 59 percent of these individuals who were obese or overweight maintained they were not at personal risk for diabetes. Even though more than half of overweight or obese respondents knew that being overweight/obese was a leading risk factor for developing type 2 diabetes. Fifty-two percent of all survey respondents qualified as overweight or obese, according to Body Mass Index (BMI) calculations.

According to the Centers for Disease Control and Prevention (CDC), the incidence of diabetes has jumped nearly 50 percent in the past 10 years. Type 2 diabetes, the most common form of the disease, typically strikes middle-aged and older adults.

The survey was conducted as part of Weight Loss Matters, the ADA's first educational initiative to focus on the relationship between weight and diabetes. The ADA survey, conducted via telephone, randomly questioned 600 adult men and women across the country about their recent weight loss efforts and their knowledge of general diet and exercise facts.

Sixty-five percent of overweight or obese respondents attempted to lose weight in the past two years. On average, they maintained their weight loss for 25 weeks. Only 22 percent of these individuals were successful at maintaining their new weight for a year or more (as recommended in *The Annual Review of Nutrition Journal 2001*).

Seventy-two percent of people surveyed reported feeling confident in their ability to identify portion sizes, but only 23 percent of these individuals actually knew the correct portion size for servings of protein, carbohydrate, and dairy as determined by the USDA Food Guide Pyramid. With portion sizes in America growing significantly, portion control is a key component to a successful weight loss effort.

81 percent of people reported exercising to lose weight. However, three quarters of these respondents underestimated by one day or more the frequency of exercise required to gain a health benefit. Research has shown that exercising at

least 5 times a week, for at least 30 minutes each time can provide a health benefit and can even help delay or prevent the onset of type 2 diabetes in people at risk.

While 92 percent of respondents said they felt comfortable talking to their doctors about weight loss, only 26 percent of people who tried to lose weight said their physician played a role in their effort. Interestingly, the majority of respondents reported that they, rather than their healthcare providers, initiated the conversations.

According to an article in Obesity Research, obese patients who receive weight management counseling are significantly more likely to undertake weight loss programs than those who do not.

According to the survey, 38 percent of respondents reported that a person who is 60 pounds overweight needs to lose 60 pounds or more to achieve a health benefit. According to the Diabetes Prevention Program (DPP), an overweight or obese individual only needs to lose 5 to 7 percent of their weight (10-15 pounds) to achieve a health benefit.

The survey findings show that people are receptive to talking with their doctor about weight loss, but more needs to be done to encourage health care professionals to take every opportunity to speak to their patients about maintaining a healthy weight."

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FACT: 75 percent of all people with diabetes and hypertension do not have good control of their hypertension (based on blood pressure target of < 130/85 mm Hg). *From the National Health and Nutrition Examination Survey (NHANES).*

We have upgraded our Tools for Your Practice page. Check out how easy it is to get all the tools you will ever need. http://www.diabetesincontrol.com/tools.shtml

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Item 2

Food Pyramid Redesigned to Reduce U.S. Waistline

The U.S. government will refashion its Food Guide Pyramid to help overweight and obese Americans eat less and exercise more.

With two thirds of Americans either overweight or obese, consumers have largely ignored the government's dietary guidelines, and keep eating too many sweets and fats rather than more fruits and vegetables.

"We've got to do something to get a behavioral change," said Eric Hentges, director of U.S. Agriculture Department's Center for Nutrition Policy and Promotion. The USDA and the Health and Human Services are responsible for federal nutrition policy.

Developed in 1992, the Food Guide Pyramid offers a general outline for how much a healthy person should eat each day from the five major food groups.

The Pyramid is the main educational tool used to help consumers interpret the U.S. Dietary Guidelines, which will be revised in 2005.

Hentges said the USDA is reviewing every aspect of the Food Guide Pyramid, so consumers can make nutritional choices that are "adequate, but moderate."

Depending on how food producers, consumer advocates and other interested parties respond to the proposal, the pyramid could take a different shape when the revisions are published in February 2005. No new shapes have been proposed, Hentges said.

For the first time, the USDA is taking into account that most Americans do not exercise regularly. "Given the sedentary lifestyles of many Americans, it was considered better not to assume any specific level of physical activity," the USDA said.

Hentges said the department may focus its new educational materials on consumers with sedentary lifestyles. More active individuals would be encouraged to obtain more specific dietary information through a government Web site.

The USDA said its publications would encourage regular exercise.

USDA's proposal also takes into consideration recent concerns over trans fats and the benefits of whole grains. Under the proposal, the USDA offers significantly more detail on the amount of calories certain groups should consume on a daily basis. Groups are based on age, sex and level of exercise.

The proposed recommended servings of fruits, vegetables, grains, meat and milk are based on 12 calorie levels ranging from 1000 to 3200 calories daily. The current Pyramid bases food portions on only three levels--1600, 2200 and 2800 calories.

An example, a 25-year-old female who doesn't exercise needs about 2000 calories per day. While a woman of the same age who walks 3 miles a day needs 400 more calories to maintain her weight.

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Did you know: *The Diabetes Education Society* offers online accredited continuing education programs. Got an hour, take a course. Visit www.MedEdOps.org, take the free sample course and review the Course Catalog. Then update yourself and your staff to meet your Education Recognition requirements. For more information call (800) 659-5808. MedEdOps.org

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Item 3

Islet Cell Transplants Cure Diabetes Without Immunosuppression Drugs

A new way to transplant insulin-producing beta cells.

Intraperitoneal transplantation of rudimentary pancreatic cells from rat embryos into adult diabetic rats normalizes glucose levels and does not require immunosuppression, a Washington University School of Medicine research team reports.

Dr. Marc R. Hammerman stated that they followed the animals for about a year and they maintain normal glucose tolerance. That's about half the life-span of a rat, so this is definitely for keeps.

As they report in the American Society for Artificial Internal Organs Journal for September/October, Dr. Hammerman and colleagues removed pancreatic anlagen from day 12.5 rat embryos, which is within 1 day of organ formation. They implanted the tissue into a fold of peritoneum adjacent to a branch of the superior mesenteric artery.

Two weeks later, the cell had grown and undergone differentiation and stained positive for insulin, the St. Louis-based team indicates. By day 35 after transplantation, transplanted animals' blood glucose levels had normalized.

Electron microscopy performed at 15 weeks demonstrated beta cells within islets, with cytoplasm "packed with neurosecretory granules containing dense cores that represent crystallized insulin," they write. Glucose tolerance test results of transplanted animals at week 18 did not differ from those of control rats.

"The key to this is to obtain the tissue as early as possible after the pancreatic anlagen form," before the formation of mature antigen-producing cells. At this stage, only the endocrine component grows and differentiates. The exocrine component of the pancreas does not develop.

Since submitting this research, he and his colleagues have refined the procedure and successfully transplanted pancreatic anlagen from pigs into rodents, without needing costimulatory blockade or other immunosuppressive treatments. "The next step is to go from pigs into primates."

Advantages over current treatment with adult kidney-pancreas transplants include unlimited tissue availability and freedom from the requirement for immunosuppressive agents. It is likely to be better than stem cell transplantation, Dr. Hammerman added, because anlagen can differentiate, grow and produce insulin without manipulation of cells in culture or addition of specific growth factors.

ASAIO J 2003;49:00-00.

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Cholestech GDX™ A1C Testing System With Instant Results
CLIA-waived - A1C results in 5 minutes - Increased office revenue –
NGSP-certified – Reimbursable. Find out More!

A new Thyroid Test for Home use is now available. More Info
The 10,000 STEP STUDY: "The Results" A simple answer to a difficult problem. CLICK HERE

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Item 4

More Evidence Links Statins and Decreased Risk of Depression

Current statin use was more strongly linked with reduced risk of depression among individuals with preexisting cardiovascular disease.

Dr. Susan S. Jick and colleagues at Boston University School of Medicine in Lexington, Massachusetts, propose that the relationship is mediated by improved quality of life among patients taking a statin. Their report follows another that suggests statins may reduce the risk of psychological disorders, independently of statins' impact on serum cholesterol levels.

Dr. Jick's group performed a nested case-control study evaluating outcomes among subjects between 40 and 79 years old in the United Kingdom General Practice Research database.

They identified 458 patients diagnosed with depression between 1991 and 1999, and compared them with 1380 controls. Their multivariate analyses adjusted for smoking, body mass index, stressful life events and pre-existing peripheral vascular disease.

The adjusted odds ratios (ORs) for depression in current lipid-lowering drug users was 0.7 for individuals prescribed a statin for less than 1 year and 0.4 for those prescribed for longer than 1 year, compared with untreated hyperlipidemic subjects. The OR for depression was similar in those taking fibrates or other non-statin lipid-lowering agents and untreated subjects.

The investigators note that current statin use was more strongly linked with reduced risk of depression among individuals with preexisting cardiovascular disease (OR = 0.3) compared with those without cardiovascular disease (OR = 0.5).

"There are some indications that statins are more effective in treating high cholesterol and other cardiovascular risk factors than other lipid-lowering drugs," Dr. Jick told Reuters Health. It may be that "the improvement in health conferred by the statins could be responsible for the improved mental health."

The association could also be related to increased health consciousness and compliance among patients taking statins, the authors suggest. *Arch Internal Med* 2003;163:1926-1932.

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DID YOU KNOW: Target Heart Rates May Predict CVD and Death in Men With Diabetes: Target heart rate following exercise may serve as an early indicator of cardiovascular disease (CVD) and all-cause death in men with diabetes. *Diabetes Care July 2003*

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Item 5

Thiazolidinediones Linked to Heart Failure and Pulmonary Edema

Congestive heart failure and pulmonary edema are associated with pioglitazone and rosiglitazone treatment.

That, according to a review of the records of six men treated for type 2 diabetes. The authors therefore advise that thiazolidinediones be avoided in diabetics with left ventricular dysfunction or chronic renal insufficiency.

Drs. Asra Kermani and Abhimanyu Garg, of the University of Texas Southwestern Medical Center in Dallas, describe the six cases of new-onset congestive heart failure and pulmonary edema that followed initiation or dose increase of thiazolidinediones in the September 9th issue of the Mayo Clinic Proceedings. They point out that these cases represent 0.9% of patients treated over the past year at their facility with these insulin sensitizers.

Even though patients ranged in age from 66 to 78 years, none of them had any acute cardiac event that would otherwise explain their condition, the report indicates. Four had chronic renal insufficiency and one had ischemic cardiomyopathy. Symptoms resolved in each case within days of discontinuing thiazolidinediones and administration of diuretics.

"More and more, physicians are likely to use these agents because metformin is sometimes contraindicated," Dr. Garg told Reuters Health. "It appears to us that [it] may not be very prudent, because some of these same patients may be predisposed to this complication."

He noted that current prescribing information suggests pioglitazone and rosiglitazone should be avoided in patients with NYHA functional class III and IV cardiac status. "But now I think that these drugs should be contraindicated in patients with any evidence of heart failure."

He also recommends against their use in patients with any history of pulmonary edema, evidence of impaired left heart function, or elevated serum creatinine levels.

In an accompanying editorial, Dr. Frank P. Kennedy notes that "the most deleterious effect of thiazolidinediones on cardiac function is mediated via an increase in intravascular volume." There is "little evidence" of a direct negative effect on cardiac performance.

He also points that that these agents may in fact have beneficial effects on cardiac function, including diminished vascular resistance, improved metabolism, a positive inotropic effect and improved endothelial function.

"Because many patients with diabetes have asymptomatic cardiac dysfunction, it is reassuring that fluid retention, when it does occur with thiazolidinediones, appears to be manageable by dose withdrawal," adds Dr. Kennedy, a physician at the Mayo Clinic in Rochester, Minnesota.

Mayo Clin Proc 2003;78:1076-1077,1088-1091.

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Item 6

Effects of Blood Pressure Level on Progression of Diabetic Nephropathy

Results From the RENAAL Study

Clinical trials of nephropathy in people with type 2 diabetes mellitus have not examined the effects of systolic blood pressure (SBP) or pulse pressure (PP) on the time to end-stage renal disease (ESRD) or death.

To evaluate the impact of baseline and treated SBP, diastolic blood pressure (DBP), and PP on composite and individual outcomes including doubling of serum creatinine, ESRD, or death in participants of the Reduction of Endpoints in NIDDM (non-insulin-dependent diabetes mellitus) With the Angiotensin II Antagonist Losartan (RENAAL) Study; to assess the specific effect of the angiotensin receptor blocker losartan potassium on composite and renal outcomes; and to explore the implications of dihydropyridine calcium channel blockers as concurrent therapy on composite and renal outcomes.

The study comprised 1513 participants with established nephropathy and hypertension associated with type 2 diabetes.

The RENAAL study was a randomized, placebo-controlled study of losartan vs placebo, with other agents added to achieve the goal of a trough BP (ie, BP immediately prior to the next dosing) below 140/90 mm Hg, and had a mean follow-up of 3.4 years. The primary analysis was time to composite end point of doubling of serum creatinine, ESRD, or death.

The results showed aA baseline SBP range of 140 to 159 mm Hg increased risk for ESRD or death by 38% (P =.05) compared with those below 130 mm Hg. In a multivariate model, every 10-mm Hg rise in baseline SBP increased the risk for ESRD or death by 6.7% (P =.007); the same rise in DBP decreased the risk by 10.9% (P =.01) when adjusting for urinary albumin-creatinine ratio, serum creatinine, serum albumin, hemoglobin, and hemoglobin A1c. Those randomized to the losartan group with a baseline PP above 90 mm Hg had a 53.5% risk reduction for ESRD alone (P =.003) and a 35.5% risk reduction for ESRD or death (P =.02) compared with the placebo group.

From the results it was concluded that the baseline SBP is a stronger predictor than DBP of renal outcomes in those with nephropathy resulting from type 2 diabetes. Those with the highest baseline PP have the highest risk for nephropathy progression but also garner the greatest risk reduction with SBP lowered to less than 140 mm Hg.

Bakris GL, Weir MR, Shanifar S, Zhang Z, Douglas J, van Dijk DJ, Brenner BM; RENAAL Study Group. Effects of Blood Pressure Level on Progression of Diabetic Nephropathy: Results From the RENAAL Study.. Arch Intern Med.. *2003;163:155-1565.*

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Item 7

Exercise Plus Weight Loss Reduces Blood Pressure in Syndrome X Patients

A program of exercise and weight loss is an effective treatment for hyperinsulinemia and significantly reduces diastolic blood pressure in patients with syndrome X

"Patients with high blood pressure often exhibit syndrome X, an aggregation of abnormalities in carbohydrate and lipoprotein metabolism associated with increased risk of coronary heart disease (CHD)," Dr. Lana L. Watkins, of the Duke University Medical Center, Durham, North Carolina, and colleagues note.

The researchers examined the effects of a 6-month intervention with either aerobic exercise training alone or a combination of exercise and a structured weight loss program on CHD risk factors associated with syndrome X. Fifty-three patients with hyperinsulinemia, dyslipidemia, and high blood pressure, characteristics of syndrome X, were included in the study.

Twenty-one patients were randomly assigned to exercise only, 21 to exercise plus weight loss, and 11 to a control group. The team measured glucose tolerance, lipid levels, and blood pressure at baseline and after treatment.

Significant reductions in hyperinsulinemic responses to glucose challenge were observed in both the exercise-only ($p = 0.003$) and exercise plus weight loss groups ($p < 0.001$).

"Compared with pretreatment levels, the 2-hour insulin response to oral glucose was reduced by 27% in the exercise - only group and by 47% in the exercise plus weight loss group," Dr. Watkins and colleagues report.

Significant reductions in diastolic blood pressure were observed in the exercise plus weight loss group, but not in the exercise-only group.

Neither intervention produced significant improvements in lipid profiles.

"The present data are consistent with the Adult Treatment Panel III recommendations that exercise plus weight loss is a valuable form of therapy for syndrome X," the authors conclude. *Arch Intern Med 2003;163:1889-1895.*

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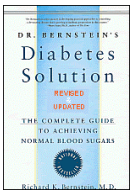

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Item 8

Enhanced Fat Oxidation Through Physical Activity Is Associated With Improvements in insulin Sensitivity in Obesity

Skeletal muscle insulin resistance entails dysregulation of both glucose and fatty acid metabolism.

This study examined whether a combined intervention of physical activity and weight loss influences fasting rates of fat oxidation and insulin-stimulated glucose disposal.

Obese (BMI >30 kg/m(2)) volunteers (9 men and 16 women) without diabetes, aged 39 +/- 4 years, completed 16 weeks of moderate-intensity physical activity combined with caloric reduction. Body composition was determined by dual-energy X-ray absorptiometry and computed tomography. Glucose disposal rates (R(d)) were measured during euglycemic hyperinsulinemia (40 mU. m(-2). min(-1)), and substrate oxidation was determined via indirect calorimetry.

Fat mass and regional fat depots were reduced and VO(2max) improved by 19%, from 38.8 +/- 1.2 to 46.0 +/- 1.0 ml. kg fat-free mass (FFM)(-1). min(-1) ($P < 0.05$). insulin sensitivity improved 49 +/- 10% (6.70 +/- 0.40 to 9.51 +/- 0.51 mg. min(-1). kg FFM(-1); $P < 0.05$). Rates of fat oxidation following an overnight fast increased (1.16 +/- 0.06 to 1.36 +/- 0.05 mg. min(-1). kg FFM(-1); $P < 0.05$), and the proportion of energy derived from fat increased from 38 to 52%

The strongest predictor of the improved insulin sensitivity was enhanced fasting rates of fat oxidation, accounting for 52% of the variance.

In conclusion, exercise combined with weight loss enhances postabsorptive fat oxidation, which appears to be a key aspect of the improvement in insulin sensitivity in obesity.

Goodpaster BH, Katsiaras A, Kelley DE. Enhanced Fat Oxidation Through Physical Activity Is Associated With Improvements in Insulin Sensitivity in Obesity. Diabetes*. 2003;52:2191-2197.*

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FACT: Poor blood sugar control may contribute to memory problems in adults with type 2 diabetes. Furthermore, consuming high glycemic index carbohydrates (carbohydrates that cause blood sugar to rise) also may impair memory. Diabetes Care *July 2003*

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Item 9
Multi-pronged Approach Shows Best Results For Wt. Loss in Diabetics
Using several weight loss strategies is better than a standard weight loss program for people with adult-onset diabetes, University of Minnesota researchers report.

They also found the greater weight loss led to improved control of blood sugar levels.

"Weight loss may be the single most important therapeutic objective" for the 80 percent of diabetics who are overweight or obese, Dr. J. Bruce Redmon and colleagues write in the journal Diabetes Care.

However, standard weight loss programs have not proven very effective. Therefore, the Minneapolis-based team tried a combination of low-calorie diets, energy-controlled meal replacements, and the weight-loss drug sibutramine (Meridia).

Twenty-nine patients with type 2 diabetes were assigned to a control group that was given standard treatment, which included education, counseling and individualized exercise and diet prescriptions. Thirty other patients got the same treatment plus sibutramine daily and meal replacement products for 1 week every 2 months. The Slim Fast Foods Company provided meal replacement products and snack bars.

At 1 year, the combination-treatment group lost significantly more weight (average 7.3 kilograms, about 16 pounds) than the control group (0.8 kg).

Average blood glucose levels also decreased significantly in the combination-treatment group, but stayed the same in the standard group. Moreover, seven combination patients but only one standard patient required less diabetes medication.

Even though the replacement meals and snacks are high in sugar and other carbohydrates, the research team saw no problems with blood sugar levels.

He was "not sure that people would tolerate it that well" if the frequency of low-calorie diet weeks were to be increased.

"We found we could do this aggressive program for 1 week and then periodically repeat that," he said, adding that overall, the program was safe and easy to implement. His team will continue following the patients for at least another year, with the control group switched to the combination program. *Diabetes Care, September 2003.*

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Item 10
Losartan Reduces Sudden Cardiac Death in People with Diabetes
Data comes from the LIFE Study

In the Losartan Intervention For Endpoint reduction in hypertension (LIFE) study, a major reduction of all-cause mortality--especially cardiovascular mortality--in patients with diabetes with left ventricular hypertrophy was reported for treatment with losartan.

We postulated post hoc that losartan might have a better effect on sudden cardiac death than atenolol, and we aimed to test this hypothesis. 44 patients with diabetes died of sudden cardiac death; significantly fewer deaths arose in the losartan group (14) than in the atenolol group (30; p=0.027). In the losartan group, five (6%) of 86 patients with diabetes and atrial fibrillation during the trial died of sudden cardiac death compared with nine (2%) of 500 in those without atrial fibrillation. The respective figures for the atenolol group were 14 (13%) of 105 and 16 (3%) of 504.

Our results suggest losartan affords better protection against cardiac death from arrhythmias for patients with diabetes mellitus than does atenolol. Importantly, our analyses were exploratory and require confirmation. *Lancet. 2003 Aug 23;362(9384):619-20.*

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Item 11
Diabetes Education Lacks Focus on Cardiovascular Risk
Diabetes education doesn't focus enough on reduction of cardiovascular risk factors.

Recent data overwhelmingly confirm the importance of controlling both blood pressure and lipids—in addition to normalization of glucose—in the reduction of cardiovascular risk in diabetic patients. Randomized trials have also shown the value of aspirin therapy, use of ACE inhibitors and angiotensin receptor blockers, and smoking cessation, said Ms. Giesler, a certified diabetes educator (CDE) at the Mayo Clinic, Rochester, Minn.

But diabetes education hasn't kept pace. “As educators, we have traditionally, disproportionately emphasized glycemic control.”

Two analyses—one prospective and one retrospective—were conducted to see exactly what diabetes educators say during typical encounters with adult diabetic patients referred by their primary care or specialist physicians.

In the first analysis, three CDEs who were unaware of the study's intent recorded all statements they made in 50 one-on-one encounters with 49 patients during a 2-week period.

Statements related to glycemic control made up 63% of the total, while 5% related to cardiovascular risk reduction.

The retrospective analysis evaluated 1,219 educational “modules” used in 1,043 individual and group education sessions. The modules cover curriculum content areas of the American Diabetes Association's national standards for diabetes education.

Glycemic control was the focus of 62% of the modules that were used during the sessions. Only 10% were devoted to cardiovascular risk reduction; the other 28% dealt with the disease process and other general facts about diabetes.

Even though all of the data came from Mayo and another nearby clinic, they probably represent diabetes education around the country.

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Did YOU KNOW: Retinopathy occurs more often among black than white participants (50 vs. 19%). *Diabetes Care.* 1999;22:779-783.

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Item 12
Insulin Pump Is As Effective As Multiple Insulin Injections
CSII was as safe and effective as MDI in patients with type 2 diabetes and may be preferable to injections for patients who require intensive insulin treatment.

A group of researchers led by Dr Philip Raskin of the University of Texas in Dallas, USA, conducted an open-label, randomized study to compare the effects of continuous subcutaneous insulin infusion (CSII) using insulin aspart with multiple daily injections (MDI) of insulin. A total of 132 patients with type 2 diabetes and no prior CSII treatment were randomized to 24 weeks of CSII or MDI. The researchers assessed efficacy with concentrations of HbA1c and 8-point blood glucose profiles. Adverse events, hypoglycaemic episodes and findings from laboratory and physical examinations were recorded to assess safety. Treatment satisfaction among patients was measured in a self-administered questionnaire.

The researchers found that HbA1c decreased similarly from baseline to the end of the study in patients treated with CSII (from 8.2% to 7.6%) and MDI (from 8.0% to 7.5%). The 8-point blood glucose values were lower in patients treated with CSII at most time points and were significantly lower 90 minutes after breakfast (167mg/dL versus 192mg/dL, p=0.019). Safety outcomes were similar in both treatment groups. Most patients (93%) preferred CSII to their previous injectable insulin because of its convenience, flexibility and ease of use.

The researchers conclude that CSII was as safe and effective as MDI in patients with type 2 diabetes and may be preferable to injections for patients who require intensive insulin treatment.

Diabetes Care 2003;26:2598-603

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Item 13
New Peptide Reduces Appetite
The hormone tells the brain that you are full and cut appetite by 1/3rd

Dr. Stephen R. Bloom, one of the researchers at Imperial College London and his colleagues had previously shown that the hormone, PYY3-36, could curb the appetites of lean people. But there were doubts that it would work in the obese people because studies of another appetite-suppressing hormone had proved disappointing.

In the study, both obese and lean people ate about 30 percent less after they were given a dose of PYY. The research also showed lower natural levels of PYY in the obese, which may explain why they are hungrier and overeat.

Bloom said long-term use of the hormone would have to be studied before it could be developed into a treatment for obesity that would consist of injections given before meals.

"We haven't yet shown you get actual weight reduction. We've only shown you eat less," Bloom said.

The findings could also point to a more natural treatment for obesity: Bloom said a high-fiber diet is believed to boost the body's production of PYY.

The research is "a hopeful step in the right direction," said obesity researcher Dr. David E. Cummings of the University of Washington in Seattle. "But there's a fairly large difference between reducing food intake for one meal and actual weight loss."

The PYY hormone, one of a number of hormones that stimulate or suppress hunger, is released by the gut as you eat. It tells the part of the brain that controls appetite when you are full.

Sixty percent of Americans are obese or overweight, and obesity contributes to about 300,000 deaths a year, according to government estimates.

The 12 obese and 12 lean people in the British study ate two meals, once after an intravenous dose of synthetic PYY and once after getting a harmless saline solution.

After the PYY dose, the obese ate 30 percent fewer calories than they did after the dummy solution. The lean people ate 31 percent less. The PYY continued to curb their appetites for 12 hours, but didn't affect their food consumption from 12 hours to 24 hours after the infusion, the researchers reported.

Without the extra dose, PYY levels were lower in the obese participants than in the lean, but the researchers said it is not known whether that is a cause of obesity or a consequence.

"If it's a consequence of obesity, it would explain why once people become overweight, it is very difficult for them to reverse it," Bloom said. "They don't feel as feel as full after food as normal people do as a result of their obesity." *Sept New England Journal of Medicine.*

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FACT: Among 176 people with diabetes, most with type 2, who completes a survey about A1cs in Hawaii, fere than 40 percent believed that they had had an A1c test; and fewer than half of those (15.3%) gave an answer that was even in the possible range of A1c results. From the survey it was concluded that only 10% were aware of there results and understood it.

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Item 14

High Doses of Angiotensin-Converting Enzyme Inhibitors and Angiotensin Receptor Blockers Required for Maximum Renoprotection

Results from recent studies have led the ADA to recommend ARBs as the treatment of choice for patients with type 2 diabetes and diabetic nephropathy, and ARBs or ACEIs for patients with microalbuminuria.

Recent studies have demonstrated that angiotensin-converting enzyme (ACE) inhibitors and angiotensin receptor blockers (ARBs) can have significant renoprotective effects, in addition to known antihypertensive benefits.

Blood pressure reduction has been used to determine the doses of ARBs and ACEIs required to effectively block the renin angiotensin system (RAS). However, recent evidence has suggested that reduction of proteinuria may provide a better standard for determining maximal renoprotective and cardiovascular effects.

To examine the optimal dosages of ACE inhibitors and ARBs, Marc S. Weinberg, MD, Rush Presbyterian/St Luke's Medical Center, Chicago, Illinois, United States, and colleagues reviewed several comparative studies in diabetic subjects that evaluated the effect of usual or high doses of RAS blockers as monotherapy or combination therapy.

According to Dr. Weinberg, the studies demonstrate that higher doses of ACE inhibitors and/or ARBs beyond peak blood pressure lowering are required to achieve maximal proteinuria reduction and renoprotective effects. The higher dose benefit was observed in studies with both type 1 and type 2 diabetes.

The magnitude of the high dosage benefit differed in each study, possibly reflecting a large individual variability in response to RAS blockade therapy. The variability may be influenced by patient factors such as degree of renal dysfunction, race, sodium intake, length of therapy, and use of concomitant medications. For example, one study using ACE inhibitor/ARB combination therapy revealed a greater reduction in proteinuria for subjects on a low-sodium diet compared to those on a high sodium diet.

Several studies using ACE inhibitors and ARBs in combination suggested additional effects compared to monotherapy. However, the reviewers note a tendency in the studies to combine very low or moderate doses of ACE inhibitors and ARBs together without first titrating the initial agent to its maximum. It therefore remains unclear whether supramaximal doses of monotherapy may be equally beneficial.

"The question of how high the doses of ACEI or ARBs must be for optimal benefit in diabetic nephropathy has not been widely answered," the reviewers conclude. Based on the available data, they recommend, "The optimal dose and strategy for renoprotection using ACEI and ARBs should be guided by titrating to the maximum antiproteinuric effect."

For patients who maintain elevated proteinuria despite high dose monotherapy, they recommend combined use of ACE inhibitors and ARBs. *Curr Hypertens Rep 2003 Oct;5:5:418-25*

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Diagnostic Tests for Home or Office: Total Cholesterol, Cholesterol Panel, TSH (Thyroid Test), PSA, and A1c. More Info:

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Item 15
Triple Antihypertensive RX Urged for Diabetics
Combined treatment with an angiotensin-active drug, a diuretic, and a calcium channel blocker is a good blood pressure-lowering regimen for most patients with diabetes.

“For most patients with diabetes and hypertension, the first drug to use is an angiotensin-converting enzyme inhibitor or an angiotensin receptor blocker for their renal-protective effect, because nephropathy is a major problem in diabetes,” said Dr. Kaplan, a professor of medicine at the University of Texas Southwestern Medical Center, Dallas.

A diuretic is a good second-line agent to pair with an angiotensin-active drug, and for the many patients with diabetes who need a third drug to reach their goal blood pressure, a calcium channel blocker is a good third-line choice because this class has the most potent blood pressure lowering effect, he said.

Some physicians have become concerned about prescribing a calcium channel blocker for patients with diabetes and proteinuria because the results from the recent African American Study of Kidney Disease and Hypertension indicated that this class can worsen kidney damage in such patients, but this concern is unfounded, said Dr. Kaplan. In that trial, the calcium channel blocker amlodipine was given to patients who were not already on an angiotensin-active drug, noted Dr. Kaplan.

“Using a calcium channel blocker in the presence of an ACE inhibitor has never been shown harmful,” he said.

He specifically recommended that physicians prescribe a dihydropyridine calcium channel blocker, such as amlodipine, when combining an ACE inhibitor with a diuretic and a calcium channel blocker. “A nondihydropyridine drug may work even better, but none of these drugs have ever been assessed in patients with diabetes,” he told this newspaper.

Dr. Kaplan also stressed the importance of treating hypertension in patients with diabetes. He cited the findings reported last year from a study organized and sponsored by the Centers for Disease Control and Prevention that assessed the cost-effectiveness of various interventions in patients with diabetes. The results showed that intensive management of hypertension saved nearly $2,000 for every quality-adjusted life year gained, and that blood pressure control was far more cost-effective than either glycemic control or controlling serum lipid levels (JAMA 287[19]:2542-51, 2002).

Study results have also shown that the goal blood pressure for patients with diabetes should be less than 130/80 mm Hg. Although drug therapy is almost always needed to get patients with diabetes to this goal, lifestyle modification is also a key element, including weight loss, increased physical activity, reduced dietary sodium, maintenance of adequate calcium and magnesium in the diet, smoking cessation, and moderation of alcohol use.

Regular alcohol consumption is often proscribed for patients with diabetes because it's considered to have “empty calories,” but according to Dr. Kaplan this is an overly extreme step. He cited the results from an epidemiologic study that included about 1,000 patients with diabetes. The results showed that among patients who said that they never used

alcohol, the death rate was about 20% higher than that among patients who consumed about one to two drinks per day.

“I recommend that even patients with diabetes consume one to two drinks per day so that they have the cardioprotective effects of alcohol,” he said at the annual meeting of the Inter-American Society of Hypertension

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Quote of the Week--------

“To achieve great things we must live as though we were never going to die.”

-- Marquis de Vauvenargues

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