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DIABETES IN CONTROL.com NEWSLETTER
The Newsletter for Professionals in Diabetes Care

April 9, 2002, Issue 99

From the Editors Desk

I just spent 2 days at the University of South Florida Diabetes update and review in Tampa. It seems that there is a giant movement afoot to focus on Type 2 diabetes in children and adolescents. With the government's new focus on Pre-Diabetes, Marilyn Porter brings us a very timely overview of "Assessment Recommendations for Children and Adolescents"

Almost 2 years later and we are still not catching diabetes early enough. This week our Item Revisited is "Twelve Years Before Diagnosis (*August 21, 2000, Issue 14*) See Item #3

Please check out item 14: "[What Does the HbA1c Results Mean](#)" and you can print out 2 forms for your patients: "What is Your Number and What does your number mean?"

Dr Jakes returns with part 2 of his feature "*Lessons learned from the development of the diabetic supplement*" He gives great insight into how the same natural product can cause different results and side effects, and what you need to know to pick a great supplement for your patient.

Dr. Burke brings you a case history from Mary Lu W. an RN, CDE, from Milwaukee, who has had Type 1 diabetes for 35 years and DPN for 5. Mary Lu shares her experience with the Anodyne Therapy System.

Steve and I were at the University of Florida College of Pharmacy 2 weeks ago. We presented a Dean's Convocation Program to the Graduating Doctor's of Pharmacy. We would like to thank [Bayer Diagnostics](#), [NovoNordisk](#), and [Medtronic Minimed](#) for their support and sponsorship.

Our 2 year anniversary issue is only 4 weeks away. We will announce the winners of our AADE Contest, have special prizes and more.

Dave Joffe
Editor-in-Chief

"Tools" for Your Practice:

[National Diabetes Education Program](#)



The National Diabetes Education Program sponsored by NIDDK is a great source for free printed materials for your patients. Take the time to visit the site. For some of the items that are available for no cost click here [Go to Page on NDEP](#)

Monthly Feature On Nutrition:

"Weight Matters" Learn about Tips for Successful Weight Management and Behavior Change Tips

By Sherri Shafer, R.D., CDE,

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[News Flash](#)

Reducing A1c could be Tax Deductible!

Will the government really pay us to lower our blood sugars?

See Item #4

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New Product:

For those that are not as compliant. The Pill Timer™



34% of people **FORGET** to take their medication on time

Simple one button setting

1-24 hour alarm

Automatic reset when cap is put back on

Large, easy to read numbers

Loud beeping buzzer

Missed dosage alarm and indicator

Available at most pharmacies and costs about 8 dollars

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Dr. Richard Bernstein's Corner:

Check out Dr. Bernstein's Corner for Insights for Controlling Blood Sugars

<http://www.diabetesincontrol.com/bernsteinarchive.htm>

This Month, Dr. Bernstein is providing us with

"How to Treat Low Blood Sugars for those with Gastroparesis"

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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>

OPEN STUDY for your participation

NEW :::::::::::::::::::::

Study #15

WarmFeet® Relaxation Study Ready to Start! (Educators who applied will be notified shortly)

Will use the biofeedback assisted relaxation training program WarmFeet®, to reduce pain and/or help in improving wound healing in the feet of a population with limited peripheral blood flow?

Patient Benefits: non-invasive; it puts the patient in charge of his/her well-being; increases blood flow to the periphery of the body; increases healing; reduces pain; increases sensory function over time; may lower blood pressure; non-pharmaceutical and it does not interfere with prescribed medications.

More information and to learn how to participate click below: Over 50 educators have signed up more than 125 patients; if you are interested, act NOW!

<http://www.diabetesincontrol.com/studies/study15.shtml>

2 NEW STUDIES WILL BE STARTING NEXT MONTH

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By referring your friends and colleagues to Diabetes in Control you can win a free scholarship to the 2002 AADE conference in Philadelphia.

<http://www.diabetesincontrol.com/scholarship.shtml>

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Did You Know: Todd Michael Sievers, University of Miami place kicker has diabetes Todd an outstanding place kicker who has overcome diabetes to become one of college football's top specialists.



Learn more: [Click Here:](#)

[Click here](#)

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This Weeks Items:

1. [Pharmacists As Part of the Diabetes Team Improves Outcomes](#)
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2. [Pregnant Women with Type 1 Diabetes Have Increased Risk for Severe Hypoglycemia](#)
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3. [ITEM Revisted: "Twelve Years Before Diagnosis"](#)
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4. [Reducing A1c Could Tax Deductible!](#)
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[Click Here](#)

ITEMS For The Week:

Item #1

[Pharmacists As Part of the Diabetes Team Improves Outcomes](#)

Pharmacists achieve drops in HbA1c, lipids and blood pressure.

After more then 45 years of just one oral drug available to treat patients with Type 2 diabetes, we now find ourselves with a dramatic increase in just a couple of years of new drugs and combinations to treat patients with diabetes. The pharmacist who is educated in all of these new treatments, interactions, contradictions, etc, can play an important role as part of the diabetes team.

An increasing number of disease management programs utilize pharmacists to assist in the monitoring and management of patients with diabetes. The VA Medical Center in Pittsburgh found that persons with Type 2 diabetes

who were enrolled in its pharmacist-based program experienced significant improvements in glycemic control within 6 months. After adjusting for the costs of the program, it was estimated that the net savings to the VA Medical Center for 15 of the most severely ill patients was more than \$103,000 per year.

In 1997, Fincham and Lofholm evaluated community pharmacists' diabetes-related interventions and estimated the one-time cost-savings from the prevention of hospitalizations or unnecessary office visits were \$4,295 per patient. A network of community pharmacists saved the city of Asheville, North Carolina, more than \$900 per patient per year on diabetes care, while several other authors have reported the positive impact of pharmacist-based services on glycemic control. Nonetheless, managed care organizations have not yet fully utilized community pharmacists to improve the quality of diabetes care.

The objective of this pilot study was to determine whether the diabetes patient-management program provided through the OVPCN was an effective means of improving clinical outcomes in persons with Type 2 diabetes.

A network of community pharmacies in West Virginia and southeastern Ohio participated in the study. The program was available to all patients with diabetes who attended the network pharmacies regardless of baseline glycemic control. Of the 47 patients initially enrolled, 32 stayed in the program for at least 6 months during the year-long study (median time in program was 9 months).

The pharmacists provided a basic, standardized diabetes education program during three 1-hour sessions. This was accompanied by a clinical assessment and a report to the patient's primary care physician. The patients met with the pharmacist every 3 months for continued monitoring. After each visit, the patient's primary care physician was sent a report along with recommendations for drug therapy modification when appropriate.

HbA1c, blood pressure, total cholesterol, low-density lipoproteins (LDL), high-density lipoproteins (HDL), triglycerides, body mass index, and the number of drug therapy modifications were monitored for outcomes

The results of the study showed that there was significant improvement in total cholesterol ($t=-2.58$, $p=0.015$) and LDL ($t=-2.56$, $p=0.017$) for the 32 participating patients. HbA1c, BMI, blood pressure, HDL and triglycerides did not change significantly across all patients. For a subgroup of 10 patients with baseline HbA1c >8%, average HbA1c declined significantly from 9.8% to 8.6% ($t=-3.00$, $p=0.015$). During the study, the 32 patients had a total of 53 modifications to their medication regimens. The most common was a change in dose of oral diabetes medications.

It was concluded that community pharmacists who have completed additional training in diabetes care can have a beneficial impact on the care of patients with Type 2 diabetes. Pharmacist-based patient-management services not only help to improve glycemic control in adults with HbA1c >8% but can also identify patients with uncontrolled hypertension and dyslipidemia and produce reductions in total cholesterol and LDL.

Therefore, pharmaceutical care may be beneficial for all patients with diabetes regardless of baseline glycemic control. *Managed Care Pharm* 8(1):48-53, 2002

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DID YOU KNOW?

People with diabetes can have a heart attack without even realizing it!

AND

73% of graduating students have some type of guaranteed student loan. You can refinance those loans at a much lower rate. [Click here to get more info](#)

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Item #2

Pregnant Women with Type 1 Diabetes Have Increased Risk for Severe Hypoglycemia

Severe Hypoglycemia can be a major problem for those with Type 1 diabetes and pregnant.

A new study shows pregnant women with type 1 diabetes are at an increased risk for severe hypoglycemia, or low blood sugar.

Hypoglycemia is a less than-normal amount of sugar in the blood. Severe hypoglycemia can be harmful to a pregnant woman and may lead to loss of consciousness, seizures and even death. Researchers from Utrecht University in the Netherlands investigated the frequency of severe hypoglycemia during the first three months of type 1 diabetic pregnancy and in the four months before pregnancy.

Researchers studied 278 pregnant type 1 diabetic women. They found a 16 percent increase in the number of severe hypoglycemic episodes from before the pregnancy to the first trimester. Specifically, the number of severe hypoglycemic occurrences rose from 0.9 episodes during the 4 months before the pregnancy to 2.6 episodes during the first part of the pregnancy.

Researchers found women were at an increases risk of suffering a hypoglycemic episode during pregnancy if they had episodes *before* their pregnancy, if they took higher doses of insulin, or if they had diabetes for 10 years or longer.

Researchers conclude the risk of severe hypoglycemia is already present in women before they get pregnant, but seems to increase during the first part of pregnancy. They say further research is needed to determine if strict glycemic control would have an impact on severe hypoglycemia early in pregnancy. *Diabetes Care*, 2002;25:554-559

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FACT:

The Cost of drugs for the VA have risen over 160 percent in the same period, to \$2.9 billion last year from \$1.1 billion in 1996, while its medical budget has increased just 42 percent. The VA has even stopped paying for certain drugs and are requiring members to pay more of the cost of others.

If your patients are having a problem paying for their medications go to www.diabetesmeds.org and download the application that will allow them to get all of their medications for 10 dollars or less for a 90 day supply.

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Item #3 Revisited from *(August 21, 2000, Issue 14)*

"Twelve Years Before Diagnosis"

Almost 2 years later and we are still not catching diabetes early enough

WASHINGTON - The statistic is dismal: Americans too often have the most common form of diabetes silently festering for up to 12 years before they're diagnosed.

That's 12 years that diabetes quietly eats away your vision, injures your kidneys and nerves and sets you up for heart disease - damage that's preventable if only people learned sooner that they have Type 2 diabetes.

Worse, half of diagnosed patients don't have their diabetes controlled well enough to stop that early damage from worsening. And experts estimate hundreds of thousands skip a test they're supposed to take every few months that's crucial for improving therapy.

Shouldn't your doctor know if you're at risk for diabetes and test you? If you've got it, shouldn't the doctor automatically provide the proper exams, including that often-skipped "A1C" test, to adjust your therapy? Ideally, yes. But doctors aren't doing a good enough job, says a new government call for more aggressive diabetes screening and care - a call that urges at-risk Americans to demand their physicians check them.

"We're trying to get the word out so people who are at risk will ask their doctors," says Dr. Judith Fradkin of the National Diabetes Education Program, a federal initiative to improve the alarming state of diabetes care and diagnosis." There's so much we can do if the illness is discovered early.

The NDEP's new call to action, published recently in the *Journal of the American Medical Association*, is important because too many people don't realize how serious diabetes is, says Dr. Robert Sherwin, president of the American Diabetes Association.

"A touch of diabetes' is what you constantly hear, the implication being that's not a serious problem," when in fact even borderline diabetes is dangerous, Sherwin says.

The vast majority of diabetics have the Type 2 form - the diabetes that sneaks up on you.

These patients' bodies gradually lose the ability to use insulin properly. Over time, high glucose levels damage their blood vessels, leading to heart, eye, kidney and nerve injury. Indeed, at diagnosis some 20 percent of patients have enough eye damage to calculate they've actually had diabetes for up to 12 years, Fradkin said.

Type 2 diabetes is most common after age 40; risk rises with increasing age. Unfortunately, however, overweight children increasingly are getting Type 2 diabetes, too. So who should seek a diabetes test?

Sherwin recommends routine screening at age 45, but says people with more than one risk factor need testing earlier. Risks include: -Being overweight. -Having a close relative who had diabetes. For women, having a baby who weighed more than 9 pounds at birth.

Being black, Hispanic, American Indian or Asian. In addition, Sherwin urges anyone with high cholesterol or high blood pressure to seek a diabetes test - saying even borderline-high blood sugar can make your cholesterol problem twice as bad.

Tightly controlling fluctuating blood sugar protects diabetics from the disease's deadly complications. Patients check daily glucose levels with finger-prick blood tests. But about every three months, they also need an "A1c" or "Hemoglobin A1c" test. This more intricate blood test measures how well you're doing over time, so doctors know if you need a medication change.

It's a cheap test, usually \$15 to \$30. Yet "people aren't getting it," Fradkin laments. No one knows why; maybe because so many diabetics get care from doctors who aren't diabetes specialists.

Among those who do get A1c testing, half discover they're not adequately treated, prompting the federal diabetes program to urge more aggressive therapy.

The A1cNow™ Monitor is the first ever single-use test for hemoglobin A1c (HbA1c) — the "gold standard" indicator of diabetes management. The test is easy to use, needs only a drop of blood and takes just 8 minutes. A1cNow is FDA cleared, CLIA waived, and provides accurate results for physician office testing or for patient use at home.

www.a1cnow.net

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FACT:

Exercise causes cells to become more sensitive to insulin, so glucose is taken out of the blood, and exercising muscles use more sugar. The result is a more normal blood sugar level

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Item #4

Reducing A1c Could be Tax Deductible!

Will the government really pay us to lower our blood sugars?

According to a recent IRS ruling, certain costs related reducing A1c's that are associated with weight loss, nutritional and exercise programs that are recommended by your physician are tax deductible! And not just for this year, but you can go back all the way to 98" and take deductions.

The IRS just ruled that certain costs related to losing weight could actually be deducted from your taxes. But before you start shaving pounds, and with the hope of saving something on your returns, you need to get the real story..

Obesity is considered a disease and like any other a diseases so just like heart disease, arthritis, diabetes, obesity treatments are tax deductible.

However, there are certain rules. For example, you can't just want to lose 10 pounds to look better for your high school reunion. That's not going to do it. Your doctor has to say that you are actually clinically obese. And let's take a look at what the National Institutes of Health means when they say clinically obese. Someone 5'4", and this is a man or a woman, 175 pounds or more, that would be considered clinically obese. Someone who is 5'10", 210 pounds or more, that would also be considered clinically obese.

Now the costs of the kinds of things that you do, your doctor has to actually recommend them.

The IRS didn't spell it out, so they left a little bit to the imagination. However, what they did say is that food is not deductible. So we know if you go out and get a bag of apples, you can't deduct that, or even a frozen Weight Watchers meal, you can't deduct that. Some of this will come out as they make their rulings and do their audits. However, certain costs appear to be approved to be tax deductible. They're actually pretty high. For example, if you wanted to go on Weight Watchers for a year, that would cost \$630, and that's not including the food. If you wanted to go on the diet pill Meridia, that would be approximately \$1,000. If you wanted to go on the Duke University weight loss program for four weeks, that would be \$6,000. If you had a personal trainer recommended by your doctor it looks like that would be deductible.

We all know that by losing weight we can improve our blood sugars and reduce our A1c's, so I guess the government is really paying us to control our blood sugars.

I wonder if 4 weeks at the Canyon Ranch Spa in Arizona would be considered?

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News Flash:

The incidence of obesity among adults has doubled since 1980 and overweight among adolescents has tripled in that time frame

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Item #5

New Strategies for Prevention and Treatment of Diabetic Renal Disease

50% of the patients in dialysis units have type 2 diabetes and continues to increase.

Over the last 35 years an increasing number of patients with type 2 diabetes have developed advanced renal disease and the need for dialysis. At present in the US, about 50% of the patients in dialysis units have type 2 diabetes. The explanation for the increase in the number of patients with type 2 diabetes in end-stage renal disease programs is not completely clear, but the overall number of patients with this type of diabetes is rapidly increasing - and is expected to continue to increase over the next years.

The diagnosis of renal disease in type 2 diabetes is usually straightforward, and is mainly dependent upon measurements of urinary albumin or urinary protein excretion as well as serum creatinine measurements. Renal biopsies or exact glomerular filtration rate measurements are rarely necessary.

Microalbuminuria is the first sign of renal disease in diabetes. It predicts overt nephropathy and cardiovascular disease. Several studies document that albuminuria and microalbuminuria can be reduced by treatment with antihypertensives, especially agents that block the renin angiotensin system. New studies show that end-stage renal disease can be postponed by the use of angiotensin II receptor antagonists. ACE inhibitors are also useful, and dual blockade of the renin angiotensin system has been utilized as well. However, generally speaking, patients with proteinuria have a poor prognosis. Screening for microalbuminuria is therefore proposed, and glycemic control and blood pressure should be optimized. *Treatments in Endocrinology Vol. 1 no 1 pp 3-11*

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DID YOU KNOW?

According to a study in the recent Diabetes Educator, most patients have not been educated on the safe disposal of syringes and lancets. At your next education session try to educate your patients on the proper disposal procedures.

By referring your friends and colleagues to Diabetes in Control you can win a free scholarship or expense check for the 2002 AADE conference in Philadelphia.

<http://www.diabetesincontrol.com/scholarship.shtml>

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Item #6

Substituting Dietary Saturated Fat with Polyunsaturated Fat Changes Abdominal Fat Distribution and Improves Insulin Sensitivity

Dietary change can result in improved insulin sensitivity and less abdominal fat

British dietary recommendations are to decrease total fat intake to less than 30 % of daily energy intake and saturated fat to less than 10 %. In practice, it is difficult for people to make these changes. It may be easier to encourage people to switch from a diet rich in saturated fatty acids to one rich in polyunsaturated fatty acids.

For the study a total of 17 subjects - six people with Type 2 (non-insulin-dependent) diabetes, six non-obese and five obese people without diabetes - were randomized to spend two 5-week periods on a diet rich in saturated or in polyunsaturated fatty acids, in a crossover design. At the start of the study and after each dietary period, we assessed abdominal fat distribution using magnetic resonance imaging, insulin sensitivity using hyperinsulinemic-euglycemic clamps and fasting lipid parameters.

The results showed that dietary compliance, assessed by weekly 3-day dietary records and measurement of biochemical markers, was good. Energy and fat intake appeared to be reduced on the diet rich in polyunsaturated fatty acids although body weights did not change. Insulin sensitivity and plasma low density lipoprotein cholesterol concentrations improved with the diet rich in polyunsaturated fatty acids compared with the diet rich in saturated fatty acids. There was also a decrease in abdominal subcutaneous fat area.

The researchers concluded that if the result is confirmed in longer-term studies, this dietary manipulation would be more readily achieved by the general population than the current recommendations and could result in considerable improvement in insulin sensitivity, reducing the risk of developing Type 2 diabetes. *Diabetologia (2002) 45: 369-377*

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FACT:

A new survey, known as the State-of-the-Heart-in-Diabetes survey, found that most people surveyed are under the misconception that blindness and amputation are more prevalent disabling consequences of diabetes than heart attack and stroke.

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ADVERTISEMENT:

ADA Releases New Dietary Guidelines

The new guidelines support the view that the total amount of carbohydrates consumed in meals and snacks is important in diabetes control, not the source of the carbohydrates. The guidelines emphasize weight loss and physical activity and focus on individualized dietary plans based on lifestyle, diabetes management goals and other lifestyle factors.

[Click Here For More Information!](#)

Item #7

Proinsulin-like Molecules Predict CHD

Concentrations of proinsulin-like molecules are a better predictor of CHD than insulin, report UK researchers.

As part of the Caerphilly study, researchers measured the concentrations of insulin, proinsulin-like molecules and risk factors in 1181 non-diabetic men (aged 50-64 years). Incident CHD was recorded during the 10-14 year follow-up. In regression models, concentrations of proinsulin-like molecules, but not insulin, predicted incident CHD. The predictive value of these molecules was reduced by around one third after adjustment for standard risk factors, triglycerides and HDL-C, and by about half after further adjustment for plasminogen activator inhibitor-1.

Reference: prospective data from the Caerphilly Study. Diabetologia 2002; 45: 327-36.

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Did You Know:

High blood pressure affects 71 percent of people with diabetes but few of them receive adequate treatment to achieve recommended levels, according to a new study.

You can refinance your old student loans and get a lower interest rate.

Click here to get information [loan info](#)

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Item #8

Waist Circumference/Body Mass Index Together Predict Disease Risk

Together a more accurate predictor of health risks

Combining waist circumference and body mass index measurements appears to provide a more accurate predictor of obesity-related health risks than the use of either measurement alone.

Overweight and obesity, particularly in the abdominal area, are associated with a variety of health risks, including cardiovascular disease and type 2 diabetes.

Clinical practitioners have employed waist circumference (WC) and body mass index (BMI) as measures to identify patients with elevated concentrations of total and abdominal fat. In a study of white men and women who varied widely by age and body type, Janssen et al. found that WC and BMI each independently predict the distribution of non-abdominal, abdominal, and visceral fat stores. The study was published in the *American Journal of Clinical Nutrition*.

The subjects, 206 men and 135 women, were all healthy and varied in age from 18 to 88 years and in BMI from 16 to 48 kg/m, with a BMI of 25 considered the cutoff point between normal weight and overweight, and more than 30 for obesity. In addition to body weights and waist circumferences, total, non-abdominal, and abdominal subcutaneous and visceral fat distributions were determined using whole-body magnetic resonance imaging.

Body mass index and WC were correlated independently with fat stores, but in men, BMI was more strongly correlated with all body fat distribution than was WC. Fat depots were also compared after a subdivision of the cohort into three BMI groups (normal, overweight, and class I obese between 30 and 35) and three WC groups (low, intermediate, and high). Within each BMI category, those in the high WC category had substantially greater abdominal fat compared to those in the low WC category. Though BMI and WC each independently predicted non-abdominal, abdominal subcutaneous, and visceral fat stores, the authors propose that BMI and WC combined better predict abdominal obesity and its associated health risks than does either variable alone.

American Society for Clinical Nutrition

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Did You Know:

Metformin (Glucophage) is used to control the symptoms of Polycystic Ovary Syndrome (PCO) by attacking insulin resistance, not unlike the reasons it is used for diabetes treatment. PCO affects 5-10% of women, whether or not they have diabetes.

Women with PCO have increased rates of miscarriage. There was concern about using Glucophage through pregnancy due the possibility of increasing the risk of miscarriage. *J Clin Endocrinol Metab*, Feb 2002, 87(2): 524-529 researched the risk. Those who received metformin throughout the pregnancy had a miscarriage rate of 8.8% as compared with 41.9% of those who did not have metformin.

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Item #9

Coenzyme Q₁₀ Improves Endothelial Dysfunction in Type 2 Diabetes

CoQ10 supplementation improves endothelial function in dyslipidemic patients with Type 2 diabetes.

The study assessed whether dietary supplementation with coenzyme Q₁₀ improves endothelial function of the brachial artery in patients with Type 2 (non-insulin-dependent) diabetes mellitus and dyslipidemia.

A total of 40 patients with Type 2 diabetes and dyslipidemia were randomized to receive 200 mg of coenzyme Q₁₀ or placebo orally for 12 weeks. Endothelium-dependent and independent function of the brachial artery was measured as flow-mediated dilatation and glyceryl-trinitrate-mediated dilatation, respectively. A computerized system was used to quantitate vessel diameter changes before and after intervention. Arterial function was compared with 18 non-diabetic subjects. Oxidative stress and plasma antioxidant status was assessed.

The results showed that diabetic patients had impaired flow-mediated dilation, but preserved glyceryl-trinitrate-mediated dilation, of the brachial artery compared with non-diabetic subjects. Flow-mediated dilation of the brachial artery increased by 1.6 % with coenzyme Q₁₀ and decreased by -0.4 % with placebo ($p = 0.005$); there were no group differences in the changes in pre-stimulatory arterial diameter, post-ischemic hyperemia or glyceryl-trinitrate-mediated dilation response.

Coenzyme Q₁₀ treatment resulted in a threefold increase in plasma coenzyme Q₁₀ ($p < 0.001$) but did not alter plasma F₂-isoprostanes, oxygen radical absorbance capacity, lipid concentrations, glycem control or blood pressure.

In conclusion, Coenzyme Q₁₀ supplementation improves endothelial function of conduit arteries of the peripheral circulation in dyslipidemic patients with Type 2 diabetes. The mechanism could involve increased endothelial release and/or activity of nitric oxide due to improvement in vascular oxidative stress. *Diabetologia* (2002) 45: 420-426

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FACT:

Americans eat an average of 149 pounds of sugar per person each year.

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Item #10

Expanding Use of Insulin Pump Therapy in Type 1 Diabetes

After 25 years, results show better control.

Continuous subcutaneous insulin infusion (CSII) is used in selected type 1 diabetic subjects to achieve strict blood glucose control. A quarter of a century after its introduction, world-wide use of CSII is increasing. We review the evidence base that justifies this increase, including effectiveness compared with modern intensified insulin injection regimens and concern about possible complications. Review of controlled trials shows that, in most patients, mean blood glucose concentrations and glycated hemoglobin percentages are either slightly lower or similar on CSII versus multiple insulin injections.

However, hypoglycemia is markedly less frequent than during intensive injection therapy. Ketoacidosis occurs at the same rate. Nocturnal glycemic control is improved with insulin pumps, and automatic basal rate changes help to minimize a pre-breakfast blood glucose increase (the "dawn phenomenon") often seen with injection therapy. Patients with "brittle" diabetes characterized by recurrent ketoacidosis are often not improved by CSII, although there may be exceptions. We argue that explicit clinical indications for CSII are helpful; we suggest the principal indications for health service or health insurance-funded CSII should include frequent, unpredictable hypoglycemia or a marked dawn phenomenon, which persist after attempts to improve control with intensive insulin injection regimens. In any circumstances, candidates for CSII must be motivated, willing and able to undertake pump therapy, and adequately psychologically stable. Some diabetic patients with well-defined clinical problems are likely to benefit substantially from CSII and should not be denied a trial of the treatment. Their number is relatively small, as would therefore be the demand on funds set aside for this purpose.

The evidence base suggests that the expanding use of CSII is justified. The unwillingness to fund pump therapy in some countries arises in part from the erroneous belief that it is indicated for a large proportion of type 1 diabetic patients, which would open a floodgate of cost implications. If we can reach agreement about some simple clinical guidelines for CSII, those who stand to benefit could be greatly helped at an affordable cost. Finally, we recommend a continued audit of the clinical reasons for starting pump therapy, its metabolic effectiveness, possible side effects, impact on long-term tissue complications, quality of life, and patient choice of treatment methods in type 1 diabetes.

Diabetes Care 25(3):593-598, 2002

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Did you know?

Who are the candidates for you to recommend for insulin pump therapy. Medtronic Minimed wants you to learn more about pump therapy see <http://www.diabetesincontrol.com/pumpprotocol.htm>

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Item #11

Diabetics Demand Personal Attention from their Pharmacists

Survey from Novo Nordisk Pharmaceutical found wide disparity in customer satisfaction levels from the chains and independent pharmacies

Most drug chains have yet to match the service levels provided by independent drug store pharmacists for diabetic patients and their families according to a new survey from Novo Nordisk Pharmaceuticals. The study found wide disparity in customer satisfaction levels from independent and chain pharmacies.

Independents ranked tops in patient satisfaction, followed by supermarket pharmacies. Chain drug stores ranked third.

The key factor in patients with diabetes choice of pharmacies, the report concluded, is the time spent by pharmacists in counseling those patients, recommending ancillary products and helping them manage their disease.

Among the biggest drivers of patient satisfaction, noted the report, are "friendly and courteous pharmacists," solid and accessible information about medications, clearly labeled directions and convenience in getting prescriptions filled quickly.

The report concluded that "Pharmacy counseling is one of the leading predictors of store satisfaction."

Servicing the needs of diabetic patients is key to any pharmacy's success. Diabetic households spend more at pharmacies than the national average, fill 25% more prescriptions, exhibit more store loyalty and have considerable influence on where other customers shop for their health care needs.

Novo's report was based on the WilsonRx Pharmacy Survey of 18,209 households. Of those polled, 2,846 were identified as diabetes households.

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Did You Know:

There are programs which can help your patients receive their meds at almost no cost and no red tape for the provider. One such program is "PAP" found at [http:// www.diabetes-meds.com](http://www.diabetes-meds.com)

Also:

Diabetes Care November 1999

—"The immediate feedback of HbA1c results at the time of patient encounters resulted in a significant improvement of glycemic control at 6-month follow-up and persisted for the 12-month study—"Availability of rapid HbA1c determinations appears to facilitate diabetes management. The more favorable HbA1c profile in the rapid HbA1c group occurs independently of the decision to intensify therapy, suggesting the involvement of other factors such as enhanced provider and/or patient motivation."

[Now you can have an instant A1c test, for home and office use](#)

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Item #12

Systolic Blood Pressure is the Most Important Marker of Cardiovascular Complications in the Elderly

Therefore, the need for more strict control of this component of blood pressure must be reconsidered

In the early stage of hypertension, diastolic blood pressure has greater prognostic importance, but in the elderly, systolic blood pressure is the most important marker of cardiovascular complications. Therefore, the need for more strict control of this component of blood pressure must be reconsidered.

The benefit obtained in different studies in the elderly suggests that the treatment of isolated systolic hypertension is associated with a reduction in overall cardiovascular mortality of 22%, in coronary heart disease mortality of 26%, and in stroke mortality of 33%. However, a higher percentage of patients (73%) attain the diastolic goal of <90 mm Hg, while only 34% have systolic pressure reduced to <140 mm Hg.

In a review of randomized trials comparing at least four different antihypertensive drugs, significant differences in systolic blood pressure reduction have not been demonstrated, except in black populations, in whom calcium channel blockers and diuretics seem to be more effective. In patients with isolated systolic hypertension, data are inconclusive, but calcium channel blockers and diuretics appear to lower blood pressure to a greater degree than do other antihypertensive drugs.

Two main predictors of difficulty in controlling systolic blood pressure are the baseline blood pressure and the presence of diabetes. Other predictors are the duration of arterial hypertension, older age, the presence of target organ damage and associated clinical conditions (myocardial infarction, stroke, chronic renal failure), and an elevated serum uric acid level. It appears that the profile of patients with a poorer therapeutic response includes a greater severity of hypertension and/or the presence of cardiovascular disease.

As recently published guidelines suggest, patients at high cardiovascular risk should be treated early and with combined therapy, in an attempt to counteract the different components that elevate BP and lead to cardiovascular damage. At present, there is no specific test to determine which drug is best for an individual patient; hence the need for multiple medications. In high-risk patients we need to assure strict control of both BP and other cardiovascular risk factors. *J Clin Hypertens. 2002;4:35-40*

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FACT

"Glucose response to a meal lasts 10 hours."

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Dealing with Stress and Diabetes: Check out Brigitta Rice's 4-part series and learn how to reduce stress and painful neuropathy for your patients in a 4 part series and then participate in the "WarmFeet Relaxation Study.

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Item #13

Carpal Tunnel Syndrome in People With Diabetes

People with diabetes are at increased risk of carpal tunnel syndrome

Not only are people with diabetes are at increased risk of carpal tunnel syndrome, but the testing commonly used to diagnose the painful condition may not be accurate in diabetics, researchers report.

Due to the difficulty of diagnosing carpal tunnel syndrome in people with diabetes, doctors should rely more on symptoms when examining diabetics, according to the investigators.

Carpal tunnel syndrome occurs when one of the nerves that passes through the wrist becomes compressed.

Symptoms include numbness, weakness, tingling and pain in the fingers and hand.

People with diabetes are at risk for several different kinds of nerve problems, the most common being a type of nerve injury called diabetic polyneuropathy, says Dr. Vera Bril of the University of Toronto. Bril noted that people with diabetes often develop carpal tunnel syndrome, too.

The usual way to diagnose the disorder is a noninvasive test called nerve conduction study. However, the criteria for interpreting the results of this testing were developed without including patients who have both diabetic polyneuropathy and carpal tunnel syndrome. So the accuracy of the criteria for diagnosing carpal tunnel syndrome in people with diabetes is uncertain, Bril and co-author Dr. Bruce A. Perkins of Harvard Medical School in Boston, Massachusetts, note in the March issue of the journal *Diabetes Care*.

To see how often carpal tunnel syndrome occurs in diabetics as well as to determine the accuracy of the conventional diagnostic test, Bril and Perkins evaluated 478 people for the condition. The study included people with diabetes who had mild, moderate or severe neuropathy or none at all.

Based on clinical symptoms, the researchers determined that 2% of the reference group had carpal tunnel syndrome, compared with 14% of diabetics who did not have neuropathy and 30% who did. But among diabetics, electrodiagnostic testing used to diagnose carpal tunnel syndrome did not accurately distinguish between those with carpal tunnel syndrome and those without it, the report indicates.

The study shows that conventional diagnostic testing "does not seem to apply in those with diabetes," according to Bril. Calling the diagnosis of diabetes "tricky," she said, "The results of this study suggest that doctors should put more weight on the symptoms that people describe rather than sophisticated lab tests."

Bril advised people with diabetes "to pay attention to symptoms of numbness, tingling, weakness or pain in their hands and tell their doctors about these symptoms."

Diabetes Care 2002;25:565-569.

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DID YOU KNOW:

India has 19.4 million diabetics and the number is expected to reach 57.2 million by the year 2025.

The United News of India reported, quoting the study published in the Journal of Indian Medical Association, said nearly 300 million people worldwide are likely to be affected by diabetes by the year 2025. The study said the number of diabetics in India has hit epidemic proportions.

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Item #14

What Does the HbA1c Results Mean? Not Much According to a Patient Study

The understanding of the meaning of an A1c tests is crucial to diabetes management according to a new study.

The purpose of the study was to compare self-reported knowledge about A1C testing with information from the medical record.

The study used a telephone survey which, was conducted among patients with diabetes in a rural fee-for-service practice and a community health center. Self-reported information regarding A1C testing, the last A1C value, and perceived blood glucose control was compared with the most current A1C value documented in the medical record.

The results showed that seventy five percent of survey respondents reported having 1 or more A1C tests in the past year, which generally agreed with information from their medical records. However, only 24% of those who reported having a test remembered the actual value, and the self-reported values correlated weakly with the last A1C on the medical record. Among those with a documented A1C value, half described their blood glucose as very well controlled. The last A1C value, however, was < 7.0% in only half of those respondents.

From the results it was concluded that persons with diabetes were aware of their previous A1C testing but did not interpret the values accurately in relation to their own glycemic control. If clinicians expect patient knowledge and understanding of glycemic control measures to improve outcomes of care, patient education will need to emphasize the meaning of these values.

For a print out of an explanation on A1c for your patients go to: [Do You Know Your Number?](#)

For a Print out that you can enter your patients results on, with an explanation, just go to

[Patients Results](#)

Diabetes Educ 2002 Jan-Feb;28(1):99-105

FACT:

Diabetes now rivals smoking, hypertension and cholesterol disorders as a major risk factor for cardiovascular disease.

Item #15

Many Patients with Coronary Artery Disease Fail to Use Aspirin Therapy

Twenty percent of people with coronary artery disease still do not use aspirin therapy.

Despite substantial evidence that aspirin saves lives and reduces the risk of heart attacks, a study conducted by Duke University Medical Center researchers indicated that, as of 1999, one in five people with coronary artery disease still did not take aspirin regularly.

In the study, published in the March 15, 2002, issue of the American Journal of Cardiology, 80.5 percent of patients questioned used aspirin in 1999. The 25,049 patients involved in the study, who were pulled from the Duke Databank for Cardiovascular Disease and had coronary artery disease diagnosed by angiography at Duke, were questioned on their aspirin use between 1995 and 1999.

While the 80.5 percent figure was a substantial increase from the 59.2 percent of patients using aspirin in 1995, Robert Califf, M.D, the study's lead author, said the percentage seen in the 1999 data was "disappointingly low" considering the wealth of information supporting aspirin's benefits in addition to it being inexpensive and available without prescription.

"Given the strong evidence for the benefit of aspirin combined with its low cost, the failure to achieve greater than 95 percent use of aspirin, or other antithrombotic therapy in this population, is disappointing. Adherence should have been greater," said Califf, who is director of the Duke Clinical Research Institute. He and his colleagues plan further studies to continue to follow the trend in aspirin use after 1999, the latest year for which data were available.

The study also showed that coronary artery disease patients who never used aspirin had nearly twice the risk of death (risk ratio of 1.85) than those patients who used aspirin, Califf noted.

Those patients who were less likely to be using aspirin therapy included those with heart failure, diabetes and hypertension.

"Too many patients without contraindications to aspirin fail to take it regularly. The health care system currently lacks effective methods to ensure that patients who have coronary artery disease have adequate follow-up concerning aspirin use," Califf said.

A small proportion of people should avoid aspirin use, Califf said(strikethrough: .) These include people with allergies to aspirin and with a history of significant gastrointestinal bleeding or gastrointestinal pain.

As recently as January 2002, the U.S. Preventative Services Task Force, part of the Public Health Service, strongly recommended that doctors discuss aspirin therapy with their patients, especially those at risk of coronary artery disease. These patients include men over the age of 40, postmenopausal women and younger people with risk factors for heart disease (smoking, diabetes, hypertension).

Every year, more than 1 million Americans die from heart attacks and other forms of coronary artery disease.

American Journal of Cardiology March 15, 2002

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Fact:

*For every one-percentage point drop in the Hemoglobin A1c diabetes complication rates drop by more than 25%.
Source: Diabetes 2001: Vital Stats.*

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Quote of the Week-----

----- "A prudent question is one-half of wisdom."

----- *Francis Bacon*

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