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There is good news. You can take steps to prevent type 2 diabetes. You can lower your risk for possible complications of blindness, nerve damage and other health problems. It is important to find out early if you have diabetes or if you are risk for developing it.

the not-so-simple truth about diabetes



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The Time is Now

Diabetes Facts

- > At least 54 million Americans over age 20 have pre-diabetes, according to the American Diabetes Association.
- > More than 60 percent of nontraumatic lower-limb amputations occur in people with diabetes.
- > In 2002, about 82,000 nontraumatic lower-limb amputations were performed in people with diabetes.
- > Heart disease and stroke account for about 65 percent of deaths in people with diabetes.
- > Adults with diabetes have heart disease death rates about two to four times higher than adults without diabetes.
- > Diabetes is the leading cause of new cases of blindness among adults from age 20 to 74.
- > Diabetic retinopathy causes 12,000 to 24,000 new cases of blindness each year.

(Source: National Diabetes Fact Sheet, Centers for Disease Control and Prevention).

a special message from our State Health Commissioner

Dr. Judy Monroe

Your Health is in Your Hands

We are facing a virtual epidemic of type 2 diabetes, and we should all be alarmed at the increasing number of cases, especially in children and young adults.

Type 2 diabetes represents more than 90 percent of all diabetes cases, and in 2005, diabetes was the sixth leading cause of death among women in Indiana. Left uncontrolled, diabetes can lead to blindness, amputations, kidney failure, heart disease, and stroke. The average yearly health care cost for a person with diabetes in the U.S. in 2002 was \$13,243, compared with \$2,560 for a person without diabetes.

It is critical that we all take steps to prevent type 2 diabetes by maintaining a normal weight and being physically active. Knowing you have diabetes is the first step in controlling the disease.

Women should learn if they or their loved ones are at risk and get their blood glucose levels tested. The good news is every person with diabetes can do several things to help control the disease and prevent complications: regularly self test your blood glucose levels, eat a healthy diet, get daily physical exercise, take diabetes medications as prescribed, check your feet daily, and don't smoke. Control your diabetes, for life.



Judy Monroe, MD
State Health Commissioner
Indiana State Department of Health

Help Stop the Type 2 Diabetes Epidemic

Each year, about 1.5 million Americans ages 20 and older are diagnosed with diabetes, according to the Centers for Disease Control in Atlanta. In addition, the CDC reports that one in three children born in 2000 will go on to develop type 2 diabetes at some point in their lives.

The American Diabetes Association says more than 246 million people worldwide have diabetes, and that figure is expected to rise to 380 million by 2020.

The United Nations recognizes diabetes as a chronic, debilitating and costly disease associated with severe complications, which poses severe risks for families. The General Assembly designated Nov. 14 as UN World Diabetes Day, starting in 2007.

Dr. Henry Rodriguez, President, Juvenile Diabetes Research Foundation, Indiana State Chapter, and a member of the American Diabetes Grant Review panel, says new technologies are on the horizon that will assist in the management of diabetes.

"These include developments in glucose sensing and alternative means of insulin delivery," he says.

"In addition, ongoing exciting basic, animal, and human clinical research will continue to improve the treatment of diabetes and its complications and will someday allow us to prevent type 1 and type 2 diabetes and their complications," Rodriguez says.

Female Diabetes Prevalence, Indiana, 1995-2006



(Source: Behavioral Risk Factor Surveillance Survey).

the not-so-simple truth about diabetes

My Story: Phyllis A. Outlaw



I didn't have any symptoms to warn me that I had diabetes. During a yearly check up five years ago at the age of 74, my doctor David Harsha, M.D., at St. Vincent Hospital found I had diabetes through a routine blood screening test. I thought my blood sugar levels had been good, around 126.

Now I see my doctor every three months and, once a year, they check everything. And, I take one pill at night to control my blood sugar levels.

My husband has diabetes also, so he's been a good support to me. At times he struggles with wanting to eat the wrong things.

I try to eat the right things. For breakfast, I'll have Shredded Wheat, or some bran cereal, with yogurt on top, instead of milk. Sometimes, when I need something more, I'll have a banana or strawberries. And my coffee. Every once in a while I'll have bacon and eggs.

I love to bake. But I have cut down on the baking that I used to do. To make a banana pudding, I have switched from the regular to the sugar-free. The changes have just fallen into place. I haven't worried about it; I've

just done what I had to do. Some people seem to let diabetes control them. I said, "I'm not letting diabetes control me. I have things to do. We're going to have to change our lifestyle and eat better."

I've changed quite a bit since I learned I have diabetes. Now, I exercise more than I normally did. I go at least twice a week to Municipal Gardens for an exercise class. We

do stretching and light weight exercises. And we line dance. We have fun. My husband walks with the "old fellows" on Mondays, Wednesdays and Fridays.

I did trace back through my family to see who had diabetes. My grandmother on my mother's side had to have her leg amputated because of diabetes. My sister also has it and needs to take insulin.

Defining the Types of Diabetes

Diabetes means that your blood glucose (blood sugar) is too high. There are two main types of diabetes.

Type 1 diabetes — The body does not make insulin. Insulin helps the body use glucose from food for energy. People with type 1 need to take insulin every day.

Type 2 diabetes — The body does not make or use insulin well. People with type 2 often need to take pills or insulin. Type 2 is the most common form of diabetes.

Gestational diabetes — May occur when a woman is pregnant. It raises her risk of getting another type of diabetes, mostly type 2, for the rest of her life. It also raises her child's risk of being overweight and getting diabetes.

Dr. Henry Rodriguez: Tips on Healthy Eating

- > Families need to commit to adopting a healthier lifestyle. Singling out one person and changing their eating habits without changing the priorities in the entire family, is doomed to failure. It really needs to be a commitment from the entire family.
- > The simplest thing is to decrease the amount of processed foods that your family eats and limit how much an individual eats.
- > Avoid high-calorie, low nutritional value foods including large volumes of fruit juice and sports drinks which have a lot of sugar in them.
- > Limit or eliminate visits to "fast-food" establishments such as McDonald's, Wendy's and Pizza Hut.



> **In the past 25 years, the number of Americans with diabetes has more than tripled from 5.8 million to 20.8 million, and future projections are high.** — *National Diabetes Education Program*

Are You at Risk?

a dozen warning signs for pre-diabetes

At least 54 million Americans over age 20 have pre-diabetes, according to the American Diabetes Association. On average, more than 4,100 people are diagnosed with diabetes every day. On any given day, about 55 go blind, 120 experience kidney failure and 230 have a limb amputated.

Those who develop type 2 diabetes usually first enter a phase of “pre-diabetes,” meaning their blood glucose levels are higher than normal but not yet high enough to be diagnosed as diabetes.

Catch the early warning signs:

- > I am 45 years of age or older.
- > My current weight, according to the At-Risk Weight Chart (at right) is too high.
- > I have a parent, brother or sister with diabetes.
- > My family background is African American, Hispanic/Latino, American Indian, Asian American, or Pacific Islander.
- > I had diabetes while I was pregnant, or I gave birth to a baby weighing 9 pounds or more.
- > I have been told that my glucose levels are higher than normal.
- > My blood pressure is 140/90 or higher, or I have been told that I have high blood pressure.
- > My HDL cholesterol (“good” cholesterol) is less than 35 or my triglyceride level is higher than 250.
- > I am physically active less than three times a week.
- > I have been told that I have polycystic ovary syndrome.
- > The skin around my neck or in my armpits appears dirty no matter how much I scrub it. This is called acanthosis nigricans (A-can-THO-sis NI-gri-cans).
- > I have been told that I have blood vessel problems affecting my heart, brain, or legs.

If you have any of these risk factors, talk with your health care provider about your chances of developing diabetes and whether you should be tested.

The Diabetes Prevention Program (DPP) research study proved that type 2 diabetes

could be prevented or delayed in persons with increased risk by losing a small amount of weight and getting 30 minutes of moderate-intensity physical activity, such as brisk walking, bicycling or aerobic exercise five days a week.

At-Risk Weight Charts

Find your height in the correct chart. If your weight is equal to or greater than the weight listed, you are at increased risk for type 2 diabetes.

If you are not Asian American or Pacific Islander At Risk BMI >25		If you are Asian American At Risk BMI >23		If you are Pacific Islander At Risk BMI >26	
HEIGHT	WEIGHT	HEIGHT	WEIGHT	HEIGHT	WEIGHT
4'10"	119	4'10"	110	4'10"	124
4'11"	124	4'11"	114	4'11"	128
5'0"	128	5'0"	118	5'0"	133
5'1"	132	5'1"	122	5'1"	137
5'2"	136	5'2"	126	5'2"	142
5'3"	141	5'3"	130	5'3"	146
5'4"	145	5'4"	134	5'4"	151
5'5"	150	5'5"	138	5'5"	156
5'6"	155	5'6"	142	5'6"	161
5'7"	159	5'7"	146	5'7"	166
5'8"	164	5'8"	151	5'8"	171
5'9"	169	5'9"	155	5'9"	176
5'10"	174	5'10"	160	5'10"	181
5'11"	179	5'11"	165	5'11"	186
6'0"	184	6'0"	169	6'0"	191
6'1"	189	6'1"	174	6'1"	197
6'2"	194	6'2"	179	6'2"	202
6'3"	200	6'3"	184	6'3"	208
6'4"	205	6'4"	189	6'4"	213

Managing the Condition



Diabetes Remains Major Cause of Death

Diabetes was the sixth leading cause of death in the United States in 2004. This ranking is based on the 73,249 death certificates that identified diabetes as an underlying cause of death. According to death certificate reports, diabetes contributed to 224,092 deaths. However, this number is likely to be underreported because studies have found that only 35 percent to 40 percent of those who died had it listed anywhere on their death certificates. Only 10 percent to 15 percent had it listed as the underlying cause of death.

Premature mortality caused by diabetes results in an estimated 12 to 14 years of life lost.

{In 2005, 1,721 Hoosiers died because of diabetes}

In 2005, 1,721 Hoosiers died because of diabetes, making it the sixth leading cause of death. It was the fourth leading cause of death in older Indiana residents ages 55-64, the fifth leading cause for those 65 and older and the seventh leading cause for those age 25 to 34.

The overall age-adjusted diabetes mortality rate for 2005 was 26.7 per 100,000 population. The age-adjusted rate for females was 23.6 percent per 100,000, though the number of deaths for women at 906 remains higher than that of men at 815.

In 2005, diabetes was the fourth leading cause of death for African Americans, third for Asian/Pacific Islanders, seventh for Caucasians and sixth for Latinos in Indiana. Though the number of deaths in the Caucasian population is higher, the rate of death for African Americans is almost double. — *Indiana State Department of Health, Data Analysis Team, 2005 Mortality Data.*

Always Be in Control

Monitor your condition with a few simple steps

A for the A1C test (A-one-C) — It shows you what your blood glucose has been over the past three months. The A1C goal for most people is below 7. High blood glucose levels can harm your heart and blood vessels, kidneys, feet and eyes.

B for Blood pressure — The goal for most people is 130/80. High blood pressure makes your heart work too hard. It can cause heart attack, stroke, and kidney disease.

C for Cholesterol — The LDL goal for most people is less than 100. The HDL goal for most people is above 40. LDL or “bad” cholesterol can build up and clog your blood vessels. It can cause a heart attack or a stroke. HDL or “good” cholesterol helps remove bad cholesterol from your blood vessels.

Get Routine Care

See your health care team at least twice a year to find and treat any problems early. Keep a medical record of your visits. Compare the results with your health care goals so you know what you need to improve to better control your diabetes. Ask what steps you can take to reach your goals.

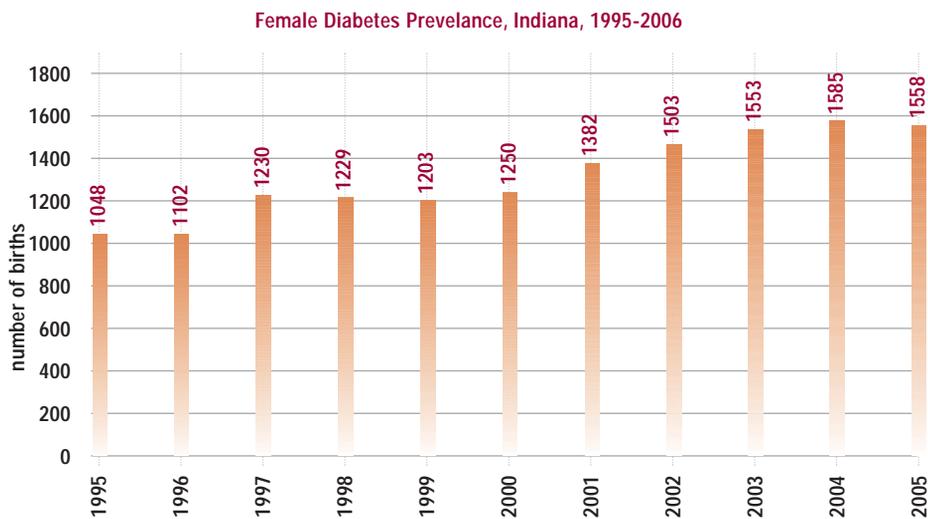
ANNUALLY

- Cholesterol and Triglyceride test, a type of blood fat
- Dental exam to check teeth and gums
- Complete foot exam
- Dilated eye exam to check for eye problems
- Urine and a blood test to check for kidney problems
- Flu shot

EACH VISIT

- A blood pressure check, foot check and weight check
 - Review your self-care plan
- (Two times a year, have an A1C test; it may be checked more often if it is over 7)

Managing the Condition



(Source: Indiana State Department of Health, Vital records, 1995-2005 Data.)

Diabetes Poses Extra Risks During Pregnancy

Women are at greater risk of developing type 2 diabetes if they had gestational diabetes, a type that can develop during pregnancy. In 2006, 2 percent of Indiana women reported they had been diagnosed with gestational diabetes, considerably higher than the national figure of 0.8 percent.

Women who are diagnosed with gestational diabetes have a 20 percent to 50 percent chance of developing diabetes within the following 10 years. About 5 percent to 10 percent will have type 2 diabetes immediately following pregnancy.

Black, Latino, and Native American women are at greater risk of developing gestational diabetes. Those who are overweight or have a family history of diabetes also are at risk.

Jaime Ostrum, who is pregnant with her second child, was diagnosed with juvenile diabetes. But like women with gestational diabetes, she has to be extra careful about her blood sugar levels.

"Fortunately, my blood sugar does pretty well while pregnant," she says. But she must check her blood glucose levels eight times a day.

Ostrum's first child was born prematurely at 31 weeks because she developed preeclampsia. "I was told that my diabetes did not cause this condition," she says. "However, it did cause me to have some complications. I was really sick and it caused me to have premature labor."

Ostrum, who is pregnant with her second child, says her physicians are working together to minimize any potential complications.



Dr. Cathy Bain "Research has shown that weight loss and exercise have a profound benefit in preventing the development of diabetes. If you are not gaining weight in America, you are distinctly unusual. The first step is to stop the gain." — Dr. Bain is director of the Risk Factors Clinic

3

Things You Can Do to Prevent Type 2 Diabetes

1 Set a weight loss goal: A 5 to 7 percent weight loss was shown to have a big impact on lowering the risk of diabetes in a Diabetes Prevention Program study. Set a goal that you can achieve. A good goal is to lose at least 5 to 10 percent (10 to 20 pounds if you weigh 200 pounds) of your current weight.

2 Become physically active: Try dancing, swimming, biking, walking, or any activity that keeps you moving for 30 minutes most days.

3 Eat healthy foods: The key to preventing diabetes is to lose weight by eating healthy foods that are lower in fat and calories. Eat healthy food, including vegetables, fruits and whole grains.

Recommended Calories and Fat Grams Daily

Current Weight	Calories Per Day	Fat Grams Per Day
120 – 170 lbs.	1,200	33
175 – 215 lbs.	1,500	42
220 – 245 lbs.	1,800	50
250 – 300 lbs.	2,000	55

Source: Game Plan for HealthCare Providers
http://www.ndep.nih.gov/diabetes/pubs/GP_Toolkit.pdf

** It is not advised to eat fewer than 1,200 calories a day

My Story: Ivory Speed



I've had diabetes since I was 12 when I was an active athlete. One day I didn't really want to go to school, and that wasn't really like me. My mom thought she'd better take me to see a doctor.

When I went, I ended up staying in the hospital. My blood sugar was over 500. I had lost a lot of weight rapidly. I was drinking gallons and gallons of water and going to the bathroom frequently. I was feeling tired all the time. But I just thought those symptoms

were due to being involved in so many sports. I was diagnosed with type 1 diabetes.

We have a family history of diabetes. But when I found out I had diabetes it was still a big shock since I was so young.

My mother has been really helpful to me since I found out that I have diabetes. She made adjustments with our whole family. That way I wouldn't feel that she had to prepare certain food just for me.

Having diabetes has been a huge adjustment. I dedicated a lot of time to school and I found it very challenging to make time in my day to check my blood sugar and take my insulin. So that is one of the reasons that my diabetes is not controlled as well as it should be. I just graduated from nursing school; but I'm still trying to adjust so that my diabetes is more controlled.

I couldn't have done anything to prevent getting type 1 diabetes. I was not overweight but may not have eaten as well as I could. But I think it was a blessing in a way to have been diagnosed when I was young. If it would have happened when I was older, I might have had more damage done to my body.

My Story: Jaime Ostrum

It was the very first day of school 20 years ago. I was 11 years old. My teacher had known me from years before, and it was in her class that I couldn't keep my head up off the desk. I was very lethargic.

My teacher told my mom, "This is not Jaime, I know her. You need to make an appointment with your doctor."

At first, doctors thought I may have had mononucleosis. But when they saw my blood tests, the glucose level was almost 1,200. By the time the doctor called to tell me that I needed to be brought to the emergency room, my mom said my eyes were beginning to roll back. I was moments away from slipping into a coma.

My life changed drastically when I was diagnosed with type 1 diabetes. I was in the middle of puberty, and it was very difficult

to keep my diabetes under control. I ended up on five shots of insulin a day within just a couple

of years. I was in and out of the hospital 12 times in the first two years.

I was sick just about every day. I missed out on a lot because of my diabetes.

Now I'm 31 and on an insulin pump. It has absolutely changed my life. It's almost like having a pancreas that works. It's amazing the advancements I've seen in my lifetime to help you control your diabetes. I am now expecting my second child. My doctor, Dr. Dawn Ayres, is working with Dr. Eric Strand, my OB doctor at St. Vincent, so everything is a group effort.



ask the experts

Q: What can be done to keep my child from becoming at risk for developing type 2 diabetes?

A: Control your child's rate of weight gain and encourage lifetime exercise activities. This includes walking or cycling to and from school when possible, playing on playgrounds and participating in lifetime sports such as soccer, baseball and running. Limit TV and computer time to 1 hour per day. — *DiMeglio*

Q: How much of a problem is the development of type 2 diabetes in children?

A: The prevalence of type 2 diabetes in children has gone up astronomically in a very short time. A study called *The Search for Diabetes in the Young* reported that of the approximately 18,700 children diagnosed with diabetes annually in the United States, 3,700 have type 2. This is roughly 20 percent of all children diagnosed with diabetes each year. This was a rarity 10 or 15 years ago. — *Rodriguez*

Q: What signs or symptoms may indicate that my child might have diabetes?

A: Increased thirst, increased urination and a sudden weight loss when your child was previously overweight may be signs of developing diabetes. — *DiMeglio*

Q: Which health care providers can help me manage my child's diabetes?

A: A team approach is critical to successfully treat and manage your child's diabetes (a serious, chronic disease). The most important members of that team are the child and his or her family. The rest of the team includes a physician, nurse educator, nutritionist/dietitian and a medical social worker. — *Rodriguez*



Dr. Linda DiMeglio,
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Hope for the Future

My Story: Ann Moran



It was really ironic the way I found out nine years ago that I had diabetes. I was applying for more insurance, and they declined me. The nurse that came to take some tests suggested that I see my family doctor. At age 58, I found out my sugar was high. It was really a surprise to me.

I went through the classes on diabetes a couple of times to try to make the changes in my life that I needed. And when I retired, I knew I had to really work on managing my diabetes so I could enjoy my future.

I went through Marion County Health Department's ABCs of Diabetes class. It was

a life-changing experience for me. The nurses were so kind, and they opened my eyes to so many things. It was wonderful.

Having diabetes has made me more respectful of what I eat. I read food labels. I look for the sodium count, the calories and the carbohydrates.

And I eat much smaller portions and more times a day. I'll have a snack of cottage cheese and fruit or cottage cheese and tomatoes between breakfast and lunch. At night, I like to have peanut butter crackers.

I used to be a butter advocate, and now I use Smart Start. I've switched from homogenized milk to skim milk. I no longer eat three or four slices of bacon. I'll have one or two on the weekend. When I go out to eat, I always

ask for a to-go container. It's always more than you need to eat.

There are things I could have done to prevent getting diabetes. I worked 10-hour days, and I felt chained to my desk. I nibbled on food. I wasn't active just sitting there. I feel that was my downfall.

But once I knew I had diabetes, I began to walk around downtown my whole lunch hour. It got me going. That was the changing point in my life.

Now I try to do ballroom dancing as much as I can. It's wonderful fun, and it doesn't even feel like it's exercise. There are many places that offer inexpensive dance classes, and I'm there. I'm on my feet for 45 minutes to an hour. It's a fun way for me to stay active.

Grant Targets Women with Diabetes

The Office of Women's Health at the Indiana State Department of Health recently received a three-year federal grant from the Department of Health and Human Services to improve outcomes for females with diabetes. The grant will support a pilot project in three Indiana counties, including Elkhart, Howard, and Lawrence.

Patient navigators will assist females with diabetes in successfully managing their diabetes by helping them overcome barriers to accessing health care services and community resources, such as a lack of financial resources or child care.

One-on-one assistance will be provided to ensure these women follow through with needed medical services such as annual foot and eye exams.

For more information about this project, contact Tanya Parrish at tparrish@isdh.in.gov.

RESOURCES

Indiana State Department of Health Provides a list of diabetes support groups and education programs in Indiana. Available at <http://www.in.gov/isdh/programs/diabetes/resources/resources.htm> or call (317) 233-7634.

National Diabetes Education Program The NDEP provides a number of free educational booklets. Visit www.ndep.nih.gov to download a copy or call 1-800-438-5383 to order by phone.

American Diabetes Association Find support groups to help you control your diabetes. Log on www.diabetes.org or call (317) 352-9226 or (888) DIABETES.

Marion County Health Department Offers a class called The ABCs of Diabetes. Visit www.mchd.com and click on 'Programs and Service,' then 'Chronic Disease Control,' and then 'Diabetes'. Call (317) 221-2094 for more information.

St. Vincent Women's Hospital Get answers to your health care questions. St. Vincent's experienced clinicians have the answers. Call (317) 338-4-HER.

Accu-Chek Offers personalized diabetes tools and information at your fingertips. Visit www.accu-chek.com today.