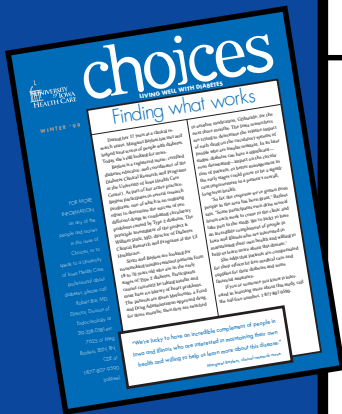


# choices

LIVING WELL WITH DIABETES

## Finding what works



During her 17 years coordinating clinical diabetes research, Meg Bayless has met and helped treat scores of people with diabetes. Today, she's still looking for more.

Bayless is a registered nurse, certified diabetes educator, and coordinator of Diabetes Clinical Research and Programs (DCRP) for University of Iowa Health Care. As part of her active practice, Bayless participates in several research programs, one of which is an ongoing effort to determine the success of two different drugs in combating circulatory problems caused by Type 2 diabetes. The principal investigators of the project are William Sivitz, MD, DRP director, and William Haynes, MD, director of the UI Division of Clinical Pharmacology.

Sivitz, Haynes, Bayless, and the DCRP team are looking for nonsmoking insulin-resistant patients from 18 to 70 years old who are in the early stages of Type 2 diabetes. Participants cannot currently be taking insulin and must have no history of heart problems. The patients are given Metformin, a Food and Drug Administration-approved drug, for three months; then they are switched to another medica-

tion, Glyburide, for the next three months. The Iowa researchers are trying to determine the relative impact of each drug on the circulatory systems of people who are insulin-resistant. In its later stages, diabetes can have a significant—even devastating—impact on the circulation of patients, so better management in the early stages could prove to be a significant improvement in a patient's overall, long-term health.

"So far, the response we've gotten from people in the area has been great," Bayless says. "Some participants even drive several hours each week to come to the clinic and take part in the study. We're lucky to have an incredible complement of people in Iowa and Illinois who are interested in maintaining their own health and willing to help us learn more about this disease."

She adds that participants are compensated for their efforts by free medical care from a diabetes team during their participation, as well as with diabetes supplies and some financial assistance.

If you or someone you know is interested in learning more about this study or other clinical diabetes research studies, call the toll-free number, 1-877-807-9590.

### FOR MORE INFORMATION

on any of the people and stories in this issue of *Choices*, or to speak to a University of Iowa Health Care professional about diabetes, please call Robert Bar, MD, Director, Division of Endocrinology at 319-338-0581 ext. 7625 or Meg Bayless, BSN, RN, CDE at 1-877-807-9590 (toll-free).

### IN THE NEXT ISSUE OF CHOICES:

Can diabetes be cured? We'll look at islet transplantation and the results from the recent Canadian studies.

"We're lucky to have an incredible complement of people in Iowa and Illinois who are interested in maintaining their own health and willing to help us learn more about this disease."

Meg Bayless, clinical research nurse



## Exploring Choices

ROBERT BAR, MD, DIRECTOR,  
DIVISION OF ENDOCRINOLOGY

Welcome to the first edition of *Choices*, a newsletter that explores the research, diagnosis, and treatment of diabetes available through University of Iowa Health Care. As researchers, we are interested in discovering the causes of and new treatments for diabetes. As clinicians, we are committed to helping patients manage their diabetes so they can live full and active lives.

This means doing more than just handing patients instructions about insulin dose and diet recommendations. Our staff—which includes physicians, nurses, dietitians, social workers, and psychologists—works as a team, over the long term, to help patients understand and manage all aspects of their health.

So, for instance, the REACH program described in this newsletter focuses on people who may not have symptoms of diabetes, yet still are at risk for developing the disease.

And as part of a world-class medical research institution, our scientists devote great effort to discovering the causes of diabetes and developing treatments. The UI is one of only a handful of research institutions recognized by the National Institutes of Health as a Diabetes and Endocrinology Research Center. We also have a second Diabetes Research Center supported by the Department of Veterans' Affairs and the Juvenile Diabetes Foundation. With both private and public support, we are making remarkable progress in helping patients and clinicians work together to identify and manage this disease.

We hope this newsletter will help you and your family better understand diabetes, become familiar with the services we offer, and get to know our staff. If you have questions, please call us toll-free at 1-877-807-9590.

# Defining diabetes

If you have been diagnosed with diabetes, you are one of about 17 million Americans who live with this disease on a daily basis. As a patient at UI Hospitals and Clinics you understand that proper diet and exercise can lessen the symptoms and long-term impact of the disease. And you may even know that you share something in common with a number of famous personalities, including actress Halle Berry, rocker Jerry Garcia, novelist Anne Rice, and Miss America 1998 Nicole Johnson.

Diabetes is characterized by an abnormally high concentration of blood sugar. In normal metabolism, the hormone insulin helps carry glucose into fat, muscle, and skeletal cells. If this process is disrupted, the body can respond in various ways. In certain cases, untreated diabetes can cause the pancreas to produce an overabundance of insulin, setting in motion a cascading series of abnormal metabolic responses. In others types of diabetes, cells actually can starve to death.

For decades, medical researchers have distinguished the causes, symptoms, and treatments of two major types of diabetes—Type 1, also known as insulin-dependent diabetes, and Type 2, or non-insulin dependent diabetes.

Type 1 patients, who typically develop the disease as children or young adults, are unable to produce insulin. Their symptoms—high levels of sugar in their blood and urine, frequent urination, extreme hunger, thirst, and weight loss, weakness, and nausea—often develop quickly. Individuals with Type 1 diabetes control the disease with daily insulin injections, exercise, and diet.

Type 2 diabetes constitutes the most common form of the disease with over 80 percent of diabetic patients suffering from this “adult onset” form. A typical Type 2 patient is over 45 years old and overweight. Type 2 patients do not produce enough insulin or are unable to make proper use of the insulin they do produce. Although certain symptoms are similar to Type 1 (tiredness, irritability, nausea, possibly increased appetite), Type 2 diabetes develops more slowly and thus can develop undetected for some time.

The precise causes of both types of diabetes are unknown, but in many patients, genetic factors seem to play a role in the manifestation of the disease.

During recent years, doctors have further refined the definition of Type 2 diabetes to better detect people who lack symptoms but may be developing the disease. Broadening the definition of diabetes will enable medical professionals to help patients begin managing their lifestyle and possibly forestall future health complications.

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Participating in the UI REACH program, Joe Henry, assistant to the dean in the UI Graduate College, has increased how much he exercises. Regular exercise, along with dietary changes and other lifestyle adjustments, can help people with impaired glucose tolerance prevent or delay the onset of type 2 diabetes.

## TYPE 1

- Usually appears before the age of 25
- Patient can quickly become very ill
- No longer able to produce insulin, so nutrients can't reach cells
- Blood sugar can skyrocket
- Managed by insulin injection
- Goal of medical team: improve management of disease and life of patient

## TYPE 2

- Patients tend to be older than 25, overweight, sedentary
- Early stages don't necessarily produce symptoms
- Sometimes detected during routine blood screening
- Still produce insulin, but are "insulin resistant," so cannot use the insulin produced
- Managed through diet, weight loss, oral medication, and possibly insulin injections
- Goal of medical team: improve management of disease and life of patient

# Before diabetes: IGT

Ask anyone who has just been diagnosed with diabetes how they feel, and you are likely to hear a list of symptoms that includes extreme thirst, frequent urination, and exhaustion. But recently, diabetes specialists associated with University of Iowa Health Care have been treating people who may be headed for diabetes, yet experience none of these symptoms.

A new program coordinated by University of Iowa physical therapist Rhonda Barr is trying to identify individuals with impaired glucose tolerance (IGT)—blood sugar levels that are higher than normal but not high enough to be diagnosed as diabetes.

"People with IGT used to be considered 'borderline' or 'pre-diabetic,'" Barr says. "Today we consider impaired glucose tolerance a distinct condition that needs to be identified and managed."

Nearly 20 million Americans have impaired glucose tolerance—many of them unknowingly. Higher than normal blood sugar levels before breakfast, plus an array of risk factors may indicate that you fit the profile for impaired glucose tolerance. Individuals with this condition are at greater risk of developing diabetes (particularly Type 2 diabetes). Barr and her team are dedicating themselves to reducing that risk.

"Diabetes can lead to cardiovascular disease, blindness, kidney failure, and other serious complications," Barr says. "So if we can catch people before they've developed diabetes, we'll be making a big difference."

Fortunately, identifying individuals with IGT is fairly simple. A blood sugar test before eating breakfast is all it takes. Barr coordinates REACH—a University of Iowa Health Care program designed to identify people with this condition—even if individuals are symptom-free. The program offers free screening to anyone, but Barr and her colleagues particularly encourage people to get in touch if they have any of the following risk factors:

- one of your family members has diabetes

CONTINUED FROM PAGE 3

- you had diabetes when you were pregnant
- you had a baby weighing more than nine pounds
- you are overweight
- you have high blood pressure or high cholesterol levels
- you are Native American, African American, or Hispanic

“So far we have screened 180 people,” Barr says, “and we’ve already found 14 people with IGT and seven people with diabetes, even though they had absolutely no symptoms of high blood sugar.”

If the screening process indicates you have IGT, Barr will encourage you to enroll in a University of Iowa Health Care special program designed to help you reach euglycemia—normal blood sugar. Offered by the REACH team of specialists (a dietician, physical therapist, psychologist, physician assistant, physician, and diabetes nurse), the eight-week program is meant to prevent or delay the onset of Type 2 diabetes through changes in diet, exercise, and overall health. Twice a week, participants come to the clinic where they exercise and talk with other people who also want to reduce their high blood sugar levels.

“We try to make the program fun as well as beneficial,” Barr says. “We involve family members and show people how their efforts will pay off—how they really are improving their long-term health through a better lifestyle now.”

If you are interested in finding out more or scheduling a simple free screening test, please contact UI Health Access, 1-800-777-8442; or 319-384-8442 and ask for the REACH program.



Missy Donegan, a graduate student at the University of Iowa, prepares to measure her blood glucose level as part of a diabetes education class at UI Hospitals in Iowa City

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