

Diabetes

Dateline

National Diabetes Information Clearinghouse

Spring/Summer 2007

Study Tests Oral Insulin to Prevent Type 1 Diabetes

A network of researchers funded by the National Institutes of Health is testing whether oral insulin can prevent or delay type 1 diabetes in a specific group of people at risk for the disease.

The network, known as Type 1 Diabetes TrialNet, is conducting the study in more than 100 medical centers across the United States, Canada, Europe, and Australia. An earlier trial suggested that oral insulin might delay type 1 diabetes for about 4 years in some people with insulin autoantibodies in their blood. Animal studies have also suggested that oral insulin may prevent type 1 diabetes.

Some scientists think introducing insulin through the digestive tract induces tolerance, or a quieting of the immune system. Insulin taken orally has no side effects because the digestive system breaks it down quickly. To lower blood glucose, people with diabetes must take insulin through an injection or pump.

“Our goal is to prevent type 1 diabetes or to delay it as long as possible,” said TrialNet Study Chair Jay Skyler, M.D., of the University of Miami. “If diabetes can be delayed, even for several years, those at risk will be spared the difficult challenges of controlling glucose and the development of complications for that much longer.”

Natural History Study

First- and second-degree relatives of people with type 1 diabetes who may be at risk are being screened through TrialNet’s natural



history study, which examines the immune and metabolic events preceding diabetes symptoms. Screening involves a simple blood test for the autoantibodies that signify diabetes risk. Individuals enrolled in the natural history study are closely monitored for diabetes development and may be eligible to participate in the oral insulin trial or future studies that try to arrest the autoimmune process.

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National Institute of
Diabetes and Digestive
and Kidney Diseases



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Other TrialNet Studies

Studies for Those Newly Diagnosed

TrialNet studies are also aimed at safely preserving insulin production in people recently diagnosed with type 1 diabetes. In the few months after diagnosis, most people with diabetes still have a supply of functioning beta cells that, with the help of insulin injections, contribute to good blood glucose control. If beta cells could be protected, more people with type 1 diabetes would be able to tightly control their blood glucose, which prevents or delays damage to the eyes, nerves, kidneys, heart, and blood vessels.

One TrialNet study seeks to turn off the immune attack on beta cells with Rituximab, a monoclonal antibody that binds to and temporarily destroys a specific class of immune cells. The Rituximab trial is recruiting participants with type 1 diabetes diagnosed within the previous 3 months. Rituximab is approved by the U.S. Food and Drug Administration (FDA) to treat specific forms of lymphoma and moderate to severe rheumatoid arthritis but not to prevent type 1 diabetes.

Also underway is a study to test whether mycophenolate mofetil (MMF), or MMF plus daclizumab (DZB), can slow or arrest the autoimmunity of type 1 diabetes. The FDA has approved MMF and DZB to prevent

organ rejection after transplant. The study has recruited the necessary number of participants.

Newborn Study

The Nutritional Intervention to Prevent Type 1 Diabetes (NIP) Trial is a pilot study of docosahexaenoic acid, an omega-3 fatty acid that may have anti-inflammatory benefits that prevent development of the autoimmunity that leads to type 1 diabetes.

The study is being conducted in babies less than 5 months old who have immediate family members with type 1 diabetes and pregnant mothers in their third trimester whose babies are at risk for type 1 diabetes, either because the mothers or other immediate relatives have the disease.

The National Institute of Diabetes and Digestive and Kidney Diseases is funding the Type 1 Diabetes TrialNet studies, along with the National Institute of Child Health and Human Development, the National Institute of Allergy and Infectious Diseases, the Juvenile Diabetes Research Foundation International, and the American Diabetes Association.

For more information about the TrialNet studies, go to www.DiabetesTrialNet.org or call 1-800-HALT-DM1 (425-8361). ■

“Our goal is to prevent type 1 diabetes or to delay it as long as possible.”

Jay Skyler, M.D.
TrialNet study chair

Diabetes Dateline

Diabetes Dateline, an email newsletter, is sent to subscribers by the National Diabetes Information Clearinghouse (NDIC). The newsletter features news about diabetes, special events, patient and professional meetings, and new publications available from the NDIC and other organizations.

If you would like to subscribe, send an email to niddk@info.niddk.nih.gov. You can read or download a PDF version of the newsletter at www.diabetes.niddk.nih.gov/about/newsletter.htm.



Executive Editor: Judith Fradkin, M.D.

Dr. Fradkin is the director of the Division of Diabetes, Endocrinology, and Metabolic Diseases for the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), part of the National Institutes of Health in Bethesda, MD. Dr. Fradkin earned her M.D. from the University of California at San Francisco and completed an internship and residency at Harvard's Beth Israel Hospital in Boston. Dr. Fradkin came to the NIDDK as a clinical associate in 1979 after an endocrinology fellowship at Yale University. She has overseen NIDDK-supported research in various roles, directing the Institute's research programs in diabetes, cystic fibrosis, endocrinology, and metabolic diseases. A practicing endocrinologist, Dr. Fradkin continues to treat patients at the National Naval Medical Center in Bethesda, where she worked as a staff endocrinologist in the early 1980s.



Rodgers Named NIDDK Director

National Institutes of Health (NIH) Director Elias A. Zerhouni, M.D., announced the appointment of Griffin P. Rodgers, M.D., as director of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) effective April 1, 2007.



Rodgers, who was appointed deputy director of the NIDDK in January 2001, has been the Institute's acting director. Rodgers also has served as chief of the NIDDK's Clinical and Molecular Hematology Branch since 1998.

As NIDDK director, Rodgers oversees an annual budget of \$1.8 billion and a staff of 650 scientists, physician-scientists, and administrators. The Institute conducts and supports research on many of the most serious health issues affecting the public, including diabetes, endocrinology, and metabolic diseases; digestive diseases and nutrition, including obesity; and kidney, urologic, and hematologic diseases.

"Griff Rodgers is an outstanding physician-scientist and molecular hematologist," said Zerhouni. "He has made singular contributions to the study of globin disorders and is internationally recognized for his contributions to the development of effective therapy for sickle cell disease and other genetic diseases of hemoglobin. In addition to his research experience, Dr. Rodgers is a dedicated and knowledgeable clinician and a first-rate research administrator. He has all the qualities we seek in an Institute director."

Rodgers received his undergraduate, graduate, and medical degrees from Brown University. He completed his residency and chief residency in internal medicine at Barnes Hospital and the Washington University School of Medicine. His fellowship training in hematology/oncology was in a joint NIH program with George Washington University and the Washington DC Veterans Affairs Medical Center.

In addition to his medical and research training, Rodgers earned a master's degree in business administration, with a focus on the business of medicine, from the Johns Hopkins University in 2005.

As a research investigator, Rodgers is widely recognized for his contributions to the development of the first effective—and now U.S. Food and Drug Administration-approved—therapy for sickle cell disease. He was a principal investigator in clinical trials to develop therapy for patients with sickle cell disease and also performed basic research that focused on understanding the molecular basis of how certain drugs induce gamma-globin gene expression. He was honored for his research with numerous awards, including the 1998 Richard and Hinda Rosenthal Foundation Award, the 2000 Arthur S. Fleming Award, the Legacy of Leadership Award in 2002, and a Mastership from the American College of Physicians in 2005.

"It is truly an honor to be given the opportunity to lead an organization with a mission as far-reaching and varied as the NIDDK's," said Rodgers. "While the NIDDK has a long and distinguished history of accomplishment as an Institute, we must look to the future to capitalize on the opportunities for disease prevention that new technologies and discoveries are giving us. The health problems we face as a nation are real and the results of research offer substantive promise for solving the difficult questions faced by millions of Americans every day and the health professionals who treat them." ■

"Dr. Rodgers is a dedicated and knowledgeable clinician and a first-rate research administrator. He has all the qualities we seek in an Institute director."

Elias A. Zerhouni, M.D.
NIH Director

NIDDK Welcomes Seven New Members to Advisory Council

Seven new members have joined the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Advisory Council, which met in Bethesda, MD, on February 21. The Council meets three times a year to advise the NIDDK about its research portfolio.

Advisory Council members, who come from the scientific and lay communities, serve 4-year terms and provide second-level peer review of grant applications scored by scientific review groups. Council members are an important liaison between the research communities they represent and the NIDDK, which supports each community's research efforts. The new members are

Charles O. Elson, III, M.D., vice chair for research in the department of medicine and the Basil I. Hirschowitz chair in gastroenterology at the University of Alabama at Birmingham. Elson joins the Digestive Diseases and Nutrition (DDN) Subcommittee.

James W. Freston, M.D., Ph.D., the Boehringer Ingelheim chair of clinical pharmacology and professor emeritus at the University of Connecticut School of Medicine in Farmington. Freston, a member of the NIDDK-funded National Drug-Induced Liver Injury Network, joins the DDN Subcommittee.

Mark A. Magnuson, M.D., the Earl W. Sutherland Jr. professor of molecular physiology and biophysics and director of the center for stem cell biology at the Vanderbilt University School of Medicine in Nashville, TN. Magnuson joins the Diabetes, Endocrinology, and Metabolic Diseases Subcommittee.

William E. Mitch, M.D., the Gordon A. Cain professor of medicine and director of the division of nephrology at Baylor College of Medicine in Houston. Mitch joins the Kidney, Urologic, and Hematologic Diseases (KUH) Subcommittee.



NIDDK Director Griffin P. Rodgers, M.D. (standing front row, second from left), meets with new council members (front row from left) Lisa H. Richardson; William E. Mitch, M.D.; and (back row from left) Anthony J. Schaeffer, M.D.; Mark A. Magnuson, M.D.; James W. Freston, M.D., Ph.D.; Charles O. Elson, III, M.D.; and Patrick Tso, Ph.D.

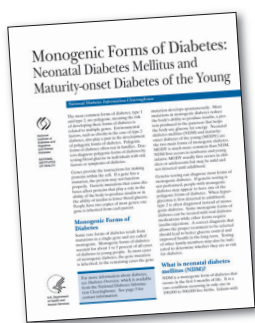
Lisa H. Richardson, national emeritus chairperson of the board and volunteer for the Crohn's and Colitis Foundation of America. Richardson joins the DDN Subcommittee.

Anthony J. Schaeffer, M.D., the Herman L. Kretschmer professor and chairman of the department of urology at the Feinberg School of Medicine at Northwestern University in Chicago. Schaeffer joins the KUH Subcommittee.

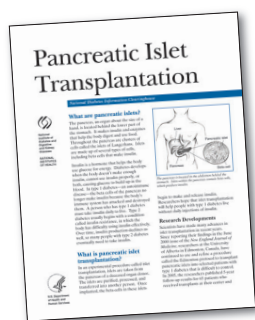
Patrick Tso, Ph.D., professor of pathology, associate director of the Cincinnati Obesity Research Center, director of the Cincinnati Mouse Diabetes Phenotyping Center, and director of the Center for Lipid and Atherosclerosis Research at the University of Cincinnati College of Medicine. Tso joins the DDN Subcommittee.

The Advisory Council will meet again on May 30. ■

Council members are an important liaison between the research communities they represent and the NIDDK, which supports each community's research efforts.



To order, please call
1-800-860-8747 or visit
<http://catalog.niddk.nih.gov>.



Monogenic Forms of Diabetes

The National Diabetes Information Clearinghouse (NDIC) has a new fact sheet about monogenic forms of diabetes, which account for between 1 and 5 percent of all diabetes cases in young people.

Monogenic Forms of Diabetes: Neonatal Diabetes Mellitus and Maturity-onset Diabetes of the Young, available on the NDIC website at www.diabetes.niddk.nih.gov/dm/pubs/mody, explains the two main forms of monogenic diabetes—neonatal diabetes mellitus and maturity-onset diabetes of the young—describes genetic testing to diagnose the diseases, and lists resources for more information.

Monogenic forms of diabetes are rare and result from mutations in a single gene. Some monogenic forms of diabetes can be treated with oral diabetes medications, while other forms require insulin injections.

Islet Transplantation

The NDIC has updated *Pancreatic Islet Transplantation*, a fact sheet that explains the transplantation procedure and its risks and benefits. Islet transplantation is an experimental procedure during which islets are taken from the pancreas of a deceased organ donor and are purified, processed, and transferred into another person. Once implanted, the beta cells in these islets begin to make and release insulin. Researchers hope islet transplantation will help people with type 1 diabetes live without daily injections of insulin. The fact sheet is available at www.diabetes.niddk.nih.gov/dm/pubs/pancreaticislet. ■

Featured in the NIDDK Reference Collection

Diabetes Microalbuminuria Screening and Management

A chart from the National Kidney Foundation diagrams care management for people with diabetes who test positive for microalbuminuria, or microscopic protein in the urine. The chart walks health care providers through the recommended screening and monitoring tests for people with microalbuminuria and includes notations for when to refer them to a nephrologist. Different colors help elucidate the decision-making grid. The laminated card is available from the National Kidney Foundation Medical Department, 30 East 33rd Street, New York, NY 10016, 1-800-622-9010, 212-689-9261 (fax).

For more resources about diabetes, visit the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Reference Collection at <http://catalog.niddk.nih.gov/resources>. This free, online, searchable database helps health care professionals, health educators, patients, and the general public find educational materials not typically referenced in most databases.

Upcoming Meetings, Workshops, and Conferences

The National Institute of Diabetes and Digestive and Kidney Diseases will have an exhibit booth at these upcoming conferences.

American Academy of Nurse Practitioners 22nd National Conference

June 20 to 24 in Indianapolis. For more information, visit www.aanp.org/Conferences/2007+Conference/2007+Conference.asp.

American Diabetes Association 67th Annual Scientific Sessions

June 22 to 26 in Chicago. For more information, visit www.diabetes.org/for-health-professionals-and-scientists/profed.jsp.

American Association of Diabetes Educators 34th Annual Meeting and Exhibition

August 1 to 4 in St. Louis. For more information, visit www.aadenet.org.

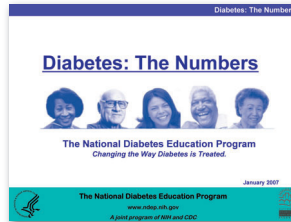
American Dietetic Association Food and Nutrition Conference and Expo

September 29 to October 2 in Philadelphia. For more information, visit www.eatright.org/cps/rde/xchg/ada/hs.xsl/events.html. ■

From the NDEP

Diabetes Slide Presentations

The National Diabetes Education Program (NDEP) is creating a series of PowerPoint slides as a resource for health care professionals, diabetes educators, and students. The slides, which could be used individually or as an entire presentation, will highlight diabetes prevalence and incidence rates by age, sex, race, and ethnicity.



The slides will be available on the NDEP website at www.ndep.nih.gov and will be packaged in three sets:

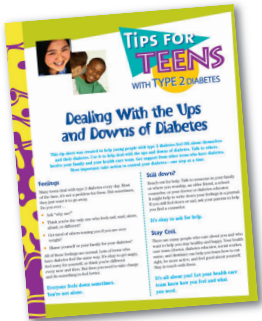
- Diabetes: The Numbers
- Diabetes: The Science of Control
- Diabetes: The Science of Prevention

Youth and Diabetes

About 155,000 young people under age 20—one in every 523—have diabetes. Although type 1 diabetes is more common in this age group, type 2 diabetes is increasingly being diagnosed in young people and is more common in certain racial and ethnic groups.

In “Don’t Treat Me Like I’m Different: A Teenage Girl’s Life with Type 2 Diabetes,” Bethannie Ramirez describes what it is like to be a teenager with type 2 diabetes and how she manages her disease. The article is available at www.ndep.nih.gov/diabetes/pubs/Teen_w_Type2Diabetes.pdf.

The NDEP also has a tip sheet, *Dealing With the Ups and Downs of Diabetes*, which offers encouragement to teenagers with diabetes, and a tip sheet series for children with type 2 diabetes. Copies of these publications are available on the NDEP website at www.ndep.nih.gov/diabetes/youth/youth.htm.



New and Improved “Diabetes at Work” Website

The NDEP Business and Managed Care Work Group has revamped the “Diabetes at Work” website, which reaches out to employers and others interested in promoting diabetes management through worksite wellness. The site’s copyright-free, field-tested tools and materials—which include an interactive assessment tool for determining the prevalence of diabetes among employees, more than 36 lesson plans in English and Spanish, and case studies highlighting successful worksite programs—are now easier to use.

The site can help employers

- develop a diabetes prevention or management program
- estimate the number of employees with diabetes and total company cost of diabetes
- choose or design a health plan for people with diabetes
- obtain leadership support for a diabetes program

The Business and Managed Care Work Group includes the NDEP, National Business Group on Health, National Business Coalition on Health, and America’s Health Insurance Plans. To see what’s new, visit www.diabetesatwork.org/diabetesatwork.

Spotlight on Partner Activities

The NDEP also has a website that highlights information about NDEP partners and their networking successes. The site now features activities of the National Alliance for Hispanic Health and the Puerto Rico Diabetes Prevention and Control Program. The NDEP has more than 200 partners at the federal, state, and local levels. These partners recently gathered in Decatur, GA, for a partnership network meeting and to celebrate the NDEP’s 10th anniversary. Visit the NDEP partner activities website at www.cdc.gov/diabetes/ndep/partners-spotlight.htm. ■