News and Resources from the National Institutes of Health

Kidney Disease Research Updates

National Kidney and Urologic Diseases Information Clearinghouse Winter 2008

CKD Increases in United States

Most People with Condition Remain Unaware

An estimated 13 percent of the U.S. adult population—about 26 million people—have chronic kidney disease (CKD), although most are unaware of it, according to a study funded by the National Institutes of Health (NIH).

The study, published in the November 7 issue of the *Journal of the American Medical Association*, analyzed and compared National Health and Nutrition Examination Survey data on more than 15,000 adults aged 20 or older from 1988 to 1994 and more than 13,000 adults from 1999 to 2004. Twenty million people were estimated to have CKD in 1994.

"Increases in diabetes, hypertension, obesity, and the aging U.S. population explain at least some of the increase," said Paul W. Eggers, Ph.D., a study co-author and director of kidney disease epidemiology at the NIH National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). "We don't know what may be responsible for the rest."

Awareness Lacking

Although awareness of CKD is improving, most people with the condition still don't know it, according to the study. Between 1999 and 2004, 11.6 percent of men and 5.5 percent of women with moderate, or stage 3, kidney disease knew they had CKD. Awareness increased to 22.8 percent among participants with stage 3 disease and increased albumin in the urine. Awareness was highest among people with severe, or stage 4, kidney disease, yet only 42 percent knew they had the condition.

"Kidney disease is often silent until late stages, but if we can find it early, we can do a lot to prevent kidney failure," said Andrew S. Narva, M.D., F.A.C.P., director of the NIDDK's National Kidney Disease Education Program. "If you have diabetes, high blood pressure, or a family history of kidney problems, you are at risk and should be screened for kidney damage with routine blood and urine tests."

CKD can lead to kidney failure—the loss of more than 85 percent of kidney function. The U.S. Renal Data System, which is funded by the NIDDK and the Centers for Medicare and Medicaid Services, estimates that by 2020, nearly 785,000 people will need kidney failure treatment in the form of dialysis or a kidney transplant at a collective cost of $53.6 billion.

To download an NIH radio interview about CKD with Drs. Narva and Eggers, go to *www.nih.gov/news/radio/dec2007/122107kidney.htm*. For more information about CKD, visit *www.kidney.niddk.nih.gov*. ■

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NIDDK
National Institute of Diabetes and Digestive and Kidney Diseases

National Institutes of Health

Department of Health & Human Services • USA

NIDDK Website Recognized as Top Performer

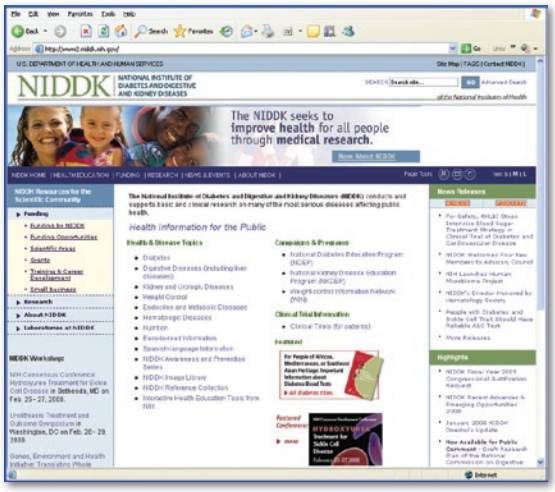
The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) website ranked among the top five Government sites in the American Customer Satisfaction Index (ACSI) E-Government Satisfaction Index.

With a score of 85, the NIDDK was one of the top-performing sites during the last quarter of 2007.

The ACSI E-Government Satisfaction Index is a special quarterly report of the ACSI produced by the University of Michigan in partnership with the American Society for Quality, ForeSee Results, and the CFI Group. The ACSI is a cross-industry measure of offline customer satisfaction that measures the performance of about 200 private sector companies and many Government agencies.

With a score of 85, the NIDDK was one of the top-performing sites during the last quarter of 2007. To calculate the ACSI E-Government quarterly aggregate citizen satisfaction score, ForeSee Results collects and analyzes data for more than 100 Government websites. A random sampling of site users on each of these ForeSee Results' client sites is presented with an online survey. Visitors rate the site on various components of the web experience and overall satisfaction with the website.

The high satisfaction score indicates that website users are likely to return to the site,



recommend the site to other users, and use the site as a primary resource. The number-one site, with a score of 88, was the Social Security Administration's Internet Social Security Benefits Application site. ■

Kidney Disease
Research Updates

NKUDIC
www.kidney.niddk.nih.gov

Kidney Disease Research Updates, an email newsletter, is sent to subscribers by the National Kidney and Urologic Diseases Information Clearinghouse (NKUDIC). The newsletter features news about kidney disease, special events, patient and professional meetings, and new publications available from the NKUDIC and other organizations.

If you would like to subscribe, go to *http://catalog.niddk.nih.gov/newsletter.cfm*. You can read or download a PDF version of the newsletter at *www.kidney.niddk.nih.gov/about/newsletter.htm*.

Executive Editor: Andrew S. Narva, M.D., F.A.C.P.

Andrew S. Narva, M.D., F.A.C.P, is the director of the National Kidney Disease Education Program (NKDEP) within the National Institute of Diabetes and Digestive and Kidney Diseases. Dr. Narva, a graduate of Harvard Medical School and board-certified in internal medicine and nephrology, served with the Indian Health Service before joining the NKDEP. He also was a member of the National Kidney and Urologic Diseases Advisory Board, the Renal Community Council of the U.S. Renal Data System, the Medical Review Board of End-Stage Renal Disease Network 15, and the National Kidney Foundation's Minority Outreach Committee, which he chaired.

NIDDK Conducts Largest Study of Early CKD in Children

Children with chronic kidney disease (CKD) face health issues that can affect their growth, learning, relationships with family and friends, and, ultimately, their chances to lead normal adult lives.

"The study has revealed the surprising fact that the incidence of low birthweight in this CKD cohort is almost three times the national average."

Marva Moxey-Mims, M.D.
Director of the NIDDK's Pediatric Nephrology and Renal Centers Programs in the Division of Kidney, Urologic, and Hematologic Diseases

Researchers estimate that children on dialysis are 30 times more likely to die than children in the general population. While the severe health consequences of kidney failure are all too familiar, little is known about the early stages of CKD in children. To learn what risk factors might be modified to slow the progression of CKD, the National Institutes of Health initiated the Chronic Kidney Disease in Children (CKiD) prospective cohort study.

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)—in collaboration with the National Institute of Neurologic Disorders and Stroke; the National Institute of Child Health and Human Development; and the National Heart, Lung, and Blood Institute—has recruited almost 540 children with mild to moderately decreased kidney function for the CKiD study. The study was funded for 5 years and will continue for another 5 years due to productivity to date and information coming out of preliminary analyses.

Surprising Results

Early results have already increased researchers' knowledge about the health of children with CKD.

"The study has revealed the surprising fact that the incidence of low birthweight in this CKD cohort is almost three times the national average," said Marva Moxey-Mims, M.D., director of the NIDDK's Pediatric Nephrology and Renal Centers Programs in the Division of Kidney, Urologic, and Hematologic Diseases. According to Moxey-Mims, CKiD is the largest study of its kind for children with CKD.

Researchers are studying risk factors for further kidney function decline, closely monitoring brain development, examining risk factors for heart disease, and looking at the long-term effects of poor growth.

"The study has already improved on methods to measure and estimate kidney function in children with kidney disease," said Susan Furth, M.D., principal investigator at the Johns Hopkins School of Medicine in Baltimore. "We hope to identify areas that can be targeted with interventions to improve the health and well-being of children with kidney problems. We have already begun to provide new information on the management of blood pressure and anemia in children with CKD back to the doctors caring for the children in the study."

Study Goals

The specific goals of the study are to

- identify novel and traditional risk factors for CKD progression
- characterize the impact of kidney function decline on neurodevelopment, cognitive abilities, and behavior
- identify the prevalence and evolution of cardiovascular disease risk factors in children with CKD
- examine the effects of a declining glomerular filtration rate on growth and assess the consequences of growth failure on morbidity in children with CKD

Early CKD in Children,
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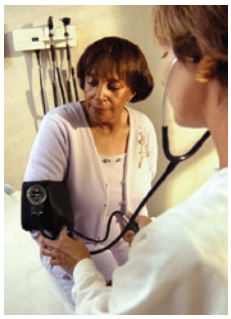
NIDDK Explores Traditional and Nontraditional Risk Factors for CKD and CVD

National Prospective Cohort Study of Chronic Kidney Disease Patients Continued



The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) began the Chronic Renal Insufficiency Cohort (CRIC) Study, a national prospective observational cohort study of men and women with chronic kidney disease (CKD) in 2001. The CRIC Study had two major goals: to examine risk factors for rapid decline in kidney function and to examine risk factors for the development of cardiovascular disease (CVD) or the worsening of existing CVD.

CRIC's subjects are between 21 to 74 years of age with stage 2 to 4 kidney disease, or a range from mild to severe loss of kidney function.

With the recruitment of more than 3,500 subjects with CKD, "an enormous database that will contribute substantial insight into patients with CKD has been established," said John Kusek, Ph.D., senior scientific advisor for the NIDDK's Division of Kidney, Urologic, and Hematologic Diseases.

"We need additional interventions for CKD," Kusek said at an October National Kidney Disease Education Program coordinating panel meeting. "Hopefully, the CRIC Study will provide insights into both traditional and nontraditional risk factors for CKD and CVD that can be tested in clinical trials."

A number of studies have explored the high cardiovascular mortality rates among patients with end-stage renal disease (ESRD), especially those on hemodialysis, compared to the general population. But little research has focused on the causes of cardiovascular morbidity and mortality in the earlier stages of CKD. Preliminary studies indicate people with CKD prior to ESRD are also at increased risk for CVD compared to people with normal kidney function.

CRIC's subjects are between 21 to 74 years of age with stage 2 to 4 kidney disease, or a range from mild to severe loss of kidney function. Because African Americans are at increased risk for ESRD and diabetes is the leading cause of kidney failure in this country, the CRIC Study is well-represented by these groups, each making up nearly one half of the cohort.

A wide range of studies is being carried out in these subjects, including accurate assessment

Study,
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Early CKD in Children, from page 3

Early results have already increased researchers' knowledge about the health of children with CKD.

Forty-four hospitals and medical centers are participating in the study, with clinical coordinating centers at Johns Hopkins and Children's Mercy Hospital in Kansas City, MO, and a data coordinating center at the Johns Hopkins Bloomberg School of Public Health.

"The commitment of the pediatric nephrology community, our patients, and their families to CKiD has been phenomenal—a fact that emphasizes the important nature of this project," said Bradley A. Warady, M.D., chief of pediatric nephrology at Children's Mercy Hospital and one of the study's three principal investigators.

Researchers expect the accurate measurement of kidney function at regular intervals in study participants will result in better equations for estimating kidney function in clinical settings. Researchers hope the knowledge gained from this study will eventually lead to well-designed interventional trials and better patient clinical care. ■

NIDDK Fosters Innovation, Collaboration through O'Brien Research Centers

To foster innovative approaches to research challenges facing today's scientists, the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) has changed the format of the George M. O'Brien Kidney and Urology Research Centers Program.

The mounting complexities associated with the studies of disease processes will likely require investigations in cell and molecular biology, biochemistry, physiology, genomics and proteomics, epidemiology, immunology, and pathology.

Funding now covers core resources, in addition to pilot and feasibility proposals, rather than individual investigator projects. The seven kidney and five urology centers in the program are allowed to serve as an institutional, regional, national, or even international resource.

The NIDDK created the O'Brien Kidney and Urology Research Centers Program in 1987 to bring together investigators from different disciplines to enhance kidney and urologic diseases research. Since that time, the NIDDK has provided 5-year grants to research institutions with dynamic teams in research fields relevant to kidney and urologic conditions. The pilot and feasibility (P&F) program and new core resources component expand the overall program goal of improving research into the causes, treatment, and cure of kidney and urologic diseases.

The Road Ahead

Interrelated, basic research subprojects, each with high scientific merit and clear research objectives, have been the hallmarks of the O'Brien Kidney and Urology Research Centers Program. With the new changes, the goals of the George M. O'Brien Kidney and Urology Research Centers Program are to

- continue to attract new scientific expertise to the study of the basic mechanisms of kidney and urologic diseases and disorders
- encourage multidisciplinary research focused on the causes of kidney and urologic diseases
- encourage translational research in kidney and urologic diseases
- explore new basic areas that may have clinical research application
- generate 2-year P&F studies that will lead to innovative approaches to studying kidney and urologic diseases and the eventual submission of competitive investigator-initiated R01 research grant applications

The P&F program provides modest support for innovative initiatives with the potential to advance understanding of cellular and molecular mechanisms that cause kidney and urologic diseases or to pilot small clinical studies. This program is directed at both new and established investigators who wish to explore a novel approach to a problem in these areas.

The mounting complexities associated with the studies of disease processes will likely require investigations in cell and molecular biology, biochemistry, physiology, genomics and proteomics, epidemiology, immunology, and pathology. In addition, research will likely focus on topical areas in kidney disease, such as diabetic nephropathy or other endocrine and metabolic disorders, hypertension in kidney disease, hereditary kidney disease, immunologic kidney disease, acute kidney failure, and nephrotoxic cell injury.

For the urology centers, research must be centered on a single major urologic disease or disorder relevant to the NIDDK's mission interests, which will serve as a central theme for individual research projects and the biomedical core(s). Each center must provide an interdisciplinary approach using basic laboratory, translational, and clinical research. Centers will also have an Educational Enrichment Program.

Urologic diseases and disorders that are appropriate for research focus include benign prostatic hyperplasia, prostatitis, urinary incontinence, dysfunctional voiding, urinary tract infections, interstitial cystitis, erectile function, urinary tract

Innovation, Collaboration,
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STUDY, from page 4

of kidney function, measurement of coronary calcium, retinal photographs, echocardiograms, genetic investigation, and assessment of dietary intake, among others. Study investigators are carefully collecting information about cardiovascular, peripheral vascular, cerebrovascular, and kidney disease-related events, as well as death. This is by far the largest epidemiologic study of CKD prior to ESRD undertaken by the NIDDK.

With the recruitment of more than 3,500 subjects with CKD, "an enormous database that will contribute substantial insight into patients with CKD has been established."

John Kusek, Ph.D.
Senior scientific advisor for the NIDDK's Division of Kidney, Urologic, and Hematologic Diseases

NIDDK Repository

Data and specimens from this study will eventually find a home at the NIDDK Data and BioSample Repositories and will serve as a national resource for other investigators who are interested in studying CKD and CVD.

Study Organization

The study is being carried out at seven clinical centers and their satellites and coordinated by a Scientific and Data Coordinating Center at the following institutions:

- Johns Hopkins University and the University of Maryland, Baltimore
- University of Illinois at Chicago
- University of Michigan, Ann Arbor; Wayne State University, Detroit; and St. John's Hospital, Detroit
- Kaiser Permanente of Northern California and the University of California, San Francisco
- Tulane University, New Orleans
- Case Western Reserve University, the Cleveland Clinic Foundation, and MetroHealth Medical Center, Cleveland
- University of Pennsylvania, Philadelphia (serves as a Clinical Center and the Scientific and Data Coordinating Center)

The NIDDK issued a Limited Competition Request for Applications to continue the study for a 5-year period beginning in July 2008.

For more information about CKD, go to *www.kidney.niddk.nih.gov*. ■

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stone disease, and chronic pelvic pain of bladder origin.

For more information about the O'Brien kidney centers, contact the NIDDK project officer, Marva Moxey-Mims, M.D., at *moxey-mimsm@extra.niddk.nih.gov*, 301–594–7717. Information about the O'Brien urology centers is available from the NIDDK project officer, Debuene Chang, M.D., at *dc475y@nih.gov*, 301–594–7717. ■

The George M. O'Brien Kidney and Urology Research Centers are located at the following facilities:

Renal Centers

Indiana
Indiana University, Indianapolis
Principal Investigator: Bruce Molitoris, M.D.

Iowa
University of Iowa, Iowa City
Principal Investigator: John Stokes, M.D.

Michigan
University of Michigan, Ann Arbor
Principal Investigator: Roger Wiggins, M.D.

New York
Albert Einstein College of Medicine, Bronx
Principal Investigator: Victor Schuster, M.D.

Tennessee
Vanderbilt University Medical Center, Nashville
Principal Investigator: Raymond Harris, M.D.

Texas
University of Texas Health Sciences Center, San Antonio
Principal Investigator: Hanna Abboud, M.D.

Baylor College of Medicine, Houston
Principal Investigator: William Mitch, M.D.

Urology Centers

Massachusetts
Children's Hospital, Boston
Principal Investigator: Michael Freeman, Ph.D.

Michigan
University of Michigan, Ann Arbor
Principal Investigator: Mark Day, Ph.D.

Pennsylvania
University of Pennsylvania Health System, Philadelphia
Principal Investigator: Samuel Chacko, D.V.M., Ph.D.

Virginia
University of Virginia, Charlottesville
Principal Investigator: William Steers, M.D.

Wisconsin
University of Wisconsin, Madison
Principal Investigator: Wade Bushman, M.D., Ph.D.

NKDEP Urges Primary Care for People with CKD

Primary care providers are key to addressing the problem of undertreated and underdetected cases of chronic kidney disease (CKD), according to National Kidney Disease Education Program (NKDEP) Director Andrew S. Narva, M.D., F.A.C.P.

"We need to promote earlier intervention."

Andrew S. Narva, M.D., F.A.C.P.
Director of the National Kidney Disease Education Program

Clinicians in primary care settings could do more to manage CKD patients, Narva said at an October NKDEP coordinating panel meeting, but do not do so because they feel unprepared to intervene. The NKDEP's goal, according to Narva, is to educate health care professionals to consider CKD a part of primary care and offer simple tools to help them provide that care.

"Chronic kidney disease is usually ignored until creatinine levels reach a level that alarms primary care providers, who then refer patients to specialists," said Narva. "We need to promote earlier intervention." According to Narva, earlier intervention can slow the rate of decline of kidney function, delaying and possibly preventing the need for dialysis.

An estimated 13 percent of people in the United States—about 26 million—have CKD, according to recent statistics from the U.S. Renal Data System, which is funded by the National Institutes of Health and the Centers for Medicare and Medicaid Services.

Chronic Care Model

Narva said the NKDEP can be instrumental in enhancing CKD interventions in the primary care setting by using the chronic care model. The chronic care model emphasizes a health care team approach, clinical case management for complex patients, evidence-based guidelines for daily clinical practice, and self management of patient care.

"The chronic care model offers a systematic way to identify needs and set priorities," said Narva. "The NKDEP is best suited to develop the messages, tools, and materials that can be used to educate providers and patients about CKD—and to facilitate more productive interactions between them."

Other NKDEP Initiatives

In addition to promoting CKD within the primary care setting, other NKDEP priorities include focusing outreach on those most at risk, redesigning the program website, and facilitating collaboration among federal agencies involved in CKD activities.

To promote a coordinated federal response to CKD, the NKDEP has expanded the annual Kidney Interagency Coordinating Committee (KICC) meeting to a year-round initiative of collaboration and information sharing. KICC participants include federal agencies with significant involvement in kidney disease. The NKDEP is developing an online directory of KICC members.

The NKDEP also has been pilot-testing a new tool for assisting health care professionals in explaining the estimated glomerular filtration rate (eGFR), a measure of kidney function, to patients. The tool, a tear-off pad, includes multiple copies of a fact sheet with talking points and simple language and visuals to explain the eGFR. The NKDEP will make the eGFR pad available nationally following testing at nine community health centers.

For a summary report of the meeting and Narva's presentation, go to *www.nkdep.nih.gov/about/panel.htm#meeting*. For patient education materials, including publications specifically for African Americans about kidney disease and other information from the NKDEP, go to *www.nkdep.nih.gov*. ■

NIDDK Scientists Receive Presidential Award

Two scientists from the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) were honored at a White House ceremony in November for their outstanding scientific leadership in kidney disease and diabetes research.

The presidential award, known as the Presidential Early Career Award for Scientists and Engineers (PECASE), was bestowed upon Michelle P. Winn, M.D., an NIDDK grantee, Alexandra C. McPherron, Ph.D., an NIDDK intramural scientist, and 10 other grantees from the National Institutes of Health (NIH). The PECASE award is the highest honor given to young scientists in the United States.

The NIH has funded 129 PECASE recipients since the program's inception.

Winn, an assistant professor in the division of nephrology in Duke University's department of medicine, was recognized for the discovery of *TRPC6* as a cause of familial kidney disease. Her NIDDK-supported genetic studies aim to determine why focal segmental glomerulosclerosis (FSGS), which causes kidney failure, sometimes runs in families.

Important Research

"Dr. Winn's research is important because it has opened a new angle to understanding a disease that we have understood very poorly—and which disproportionately affects African Americans," said Rebekah Rasooly, NIDDK deputy director for the Division of Kidney, Urologic, and Hematologic Diseases.

FSGS is a common, irreversible process that can result in steroid-resistant nephrotic syndrome, a condition marked by very high protein levels in the urine; low protein levels in the blood; swelling, especially around the eyes, feet, and hands; and high cholesterol. FSGS often appears as a primary condition, with a propensity to progress to end-stage renal disease. The peak incidence is in adolescence and young adulthood. The familial forms appear more often in younger children. The worst prognosis is observed in African Americans.

From left, NIDDK Director Griffin P. Rodgers, M.D., M.A.C.P; NIDDK Hematology Training and Careers Program Director Terry R. Bishop, Ph.D.; Michelle P. Winn, M.D.; and NIH Director Elias A. Zerhouni, M.D.

"I can't even begin to say how grateful I am to the NIH and, specifically, to the NIDDK for all they've done," said Winn. "They have fostered my career and have been very supportive."

Winn, who had an NIH K08 award, which provides physicians with up to 5 years of support to pursue research careers, is now in the second year of an R01 grant and will apply for another R01 in February. The R01 research project grant is awarded to eligible institutions on behalf of a principal investigator to support a discrete project related to the investigator's area of interest and competence.

Exploring Myostatin

McPherron, a tenure-track investigator with the NIDDK's Genetics of Development and Disease Branch, was chosen for research in which she discovered myostatin, a secreted protein produced by skeletal muscle that inhibits muscle

Presidential Award,
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NIDDK Director Honored by Hematology Society

Griffin P. Rodgers, M.D., M.A.C.P., director of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), was honored with the American Society of Hematology's Outstanding Service Award in December.

The award recognizes Rodgers' significant contributions to hematology, particularly in the areas of genetic diseases, molecular genetics of human blood cells, and human blood cell development, according to the Society. Rodgers also was honored for his efforts to increase the number of minority scholars in hematology and for becoming the first hematologist to direct the NIDDK.

"Griff Rodgers is an outstanding physician-scientist and molecular hematologist," said National Institutes of Health Director Elias A. Zerhouni, M.D. "He's internationally recognized for contributions to the development of effective therapy for sickle cell anemia and other genetic diseases of hemoglobin, and he is also an accomplished scientific leader and mentor."

Rodgers took the helm at the NIDDK on April 1, 2007. The Institute was established in 1950. ■

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From left, NIDDK Director Griffin P. Rodgers, M.D., M.A.C.P.; Alexandra C. McPherron, Ph.D.; and NIH Director Elias A. Zerhouni, M.D.

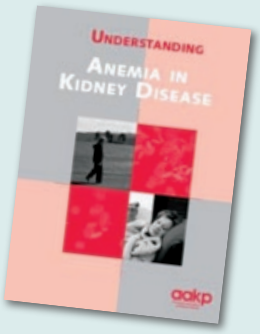
growth. Inhibiting myostatin might be therapeutically useful for treating muscle wasting diseases, diabetes, or obesity, according to McPherron.

Through NIDDK research, McPherron is trying to understand the role of myostatin in adult metabolism. "The myostatin protein circulates in the bloodstream so it might act on other tissues, such as adipose, in addition to skeletal muscle," said McPherron. "We don't know whether the improvement in glucose metabolism is due purely to the increase in skeletal muscle mass, the loss of circulating myostatin acting on other tissues, or metabolic changes in skeletal muscle, such as becoming more sensitive to insulin.

We are also trying to understand how myostatin regulates the proliferation and differentiation of muscle precursor cells and their incorporation into muscle fibers."

The PECASE awards, commissioned by President Clinton in 1996, support the continued professional development of awardees, promote careers and foster innovation in science and technology, and recognize the scientific missions of participating agencies. The NIH has funded 129 PECASE recipients since the program's inception. A list of previous NIH recipients of this prestigious award is available at *http://grants.nih.gov/grants/policy/pecase.htm*. ■

Featured in the NIDDK Reference Collection



Anemia and Kidney Disease

This eight-page brochure from the American Association of Kidney Patients (AAKP) helps people with kidney disease understand anemia and how to manage it. The brochure reviews the symptoms of anemia, identifies diagnostic tests to monitor red blood cell levels, considers the causes of anemia, and discusses treatment options, including injections of erythropoiesis stimulating agents (ESAs), regular exercise, and nutritional enrichment with iron. The publication concludes with a glossary of related terms, a quiz to help readers self-diagnose whether anemia might be a problem, blank space for taking notes, an AAKP membership form, and a list of available AAKP resources. *Understanding Anemia in Kidney Disease* is available from the AAKP at 3505 E. Frontage Road, Suite 315, Tampa, FL 33607, *info@aakp.org*, *www.aakp.org*.

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Reference Collection is a free, online database that helps health care professionals, health educators, patients, and the general public find educational materials not typically referenced in most databases. The NIDDK does not control or endorse the information contained in this collection; the information is provided as a convenience to visitors.

Visit the Reference Collection at *www.catalog.niddk.nih.gov/resources* to find more resources about kidney disease. ■

Additional Resources

The Awareness and Prevention Series fact sheets are written in English on one side and Spanish on the other.

Awareness and Prevention Series

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) has created a new health information series to raise awareness about kidney and urologic diseases, diabetes, and digestive diseases among people not yet diagnosed with these illnesses.

The Awareness and Prevention Series, which the NIDDK developed for health fairs and similar venues, features two-page fact sheets about a wide range of health topics. Each fact sheet gives readers a snapshot of an illness, highlighting risk factors, symptoms, prevention tips, and where to go for more information. The fact sheets are written in English on one side and Spanish on the other. Kidney and urologic diseases fact sheets address kidney stones, bladder control, and urinary tract infections.

"The series is designed to encourage readers to ask 'Could this be me or someone I care for?'" said Kathy Kranzfelder, director of the NIDDK Information Clearinghouses. "Raising awareness of these illnesses will hopefully help people learn to prevent them or see a doctor if they have symptoms."

Copyright-free full texts of the Awareness and Prevention Series publications can be downloaded or ordered on the National Kidney and Urologic Diseases Information Clearinghouse website at *www.kidney.niddk.nih.gov/kudiseases/ap.htm*. The website also has fact sheets and booklets with more complete information about these topics and many others related to kidney and urologic diseases.

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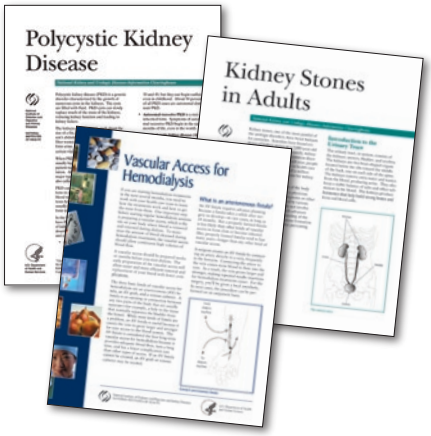
Additional Resources, from page 10

Updated Fact Sheets

The National Kidney and Urologic Diseases Information Clearinghouse has updated the following fact sheets:

- *Polycystic Kidney Disease*
- *Vascular Access for Hemodialysis*
- *Kidney Stones in Adults*



Upcoming Meetings, Workshops, and Conferences

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) will exhibit at the following upcoming conferences:

American Nephrology Nurses Association 39th Annual Symposium

April 27 to 30 in Philadelphia.
For more information, go to *www.annanurse.org/cgi-bin/WebObjects/ANNANurse.woa/wa/viewSection?s_id=1073744233*.

National Kidney Foundation Spring '08 Clinical Meetings

April 2 to 6 in Dallas.
For more information, go to *www.kidney.org/news/meetings/clinical/index.cfm*.

American College of Physicians Internal Medicine 2008

May 15 to 17 in Washington, DC.
For more information, go to *www.acponline.org/cme/as/im08.htm?hp*.

American Academy of Physician Assistants Annual Conference

May 24 to 29 in San Antonio.
For more information, go to *www.aapa.org/annual-conf/index.html*. ■

NIH Publication No. 08–4531
March 2008