University Specialty Clinics

Connections

"Quite A Staggering Advance"

The Majority Of Morbidly Obese Individuals With Diabetes Are Cured After Having Bariatric Surgery.

With her weight exceeding 400 pounds, Jerri Dantzler had been having a hard time keeping her diabetes under control. "A lot of times I concealed it from the doctors because I was frightened of having to take insulin," said the 39-year-old mother of three.

Before Dantzler underwent bariatric surgery in January, she was also suffering from a number of other medical problems related to her morbid obesity, including high blood pressure and sleep apnea. Having shed 137 pounds and continuing to lose weight, her health has improved dramatically and she no longer suffers from diabetes.

Dr. Allan Walls, Associate Professor, Department of Surgery, performed the laparoscopic weight loss surgery on Dantzler. During the Roux-en-Y gastric bypass, 95 percent of the stomach is stapled off, creating a gastric pouch approximately the size of a Dixie cup. The surgeon also attaches a small section of the small intestine to the pouch, creating a gastric bypass that shortens the small intestine. Weight loss follows because the smaller stomach restricts how much a person can eat and the shortened small intestine limits how much food can be absorbed.

Over the course of the 12 to 18 months after surgery, patients find themselves dropping considerable pounds. "I usually tell them they can expect to lose between 60 and 75 percent of their excess weight," said Dr. Walls. They also find relief from the various medical co-morbid conditions they had been experiencing, which can range from gallstones to urinary incontinence to coronary artery disease. "As the weight comes off, almost every co-morbid condition will improve to some extent. Quite a large percentage of them will resolve themselves entirely," Dr. Walls said.

Photo by Bryan Cox

Dr. Allan Walls

Dr. Walls has found the gastric bypass procedure to be particularly effective with obese patients who had diabetes. "The most fascinating co-morbidity is type 2 diabetes. It is cured in almost 88 percent of patients, which is absolutely stunning. Patients who are not cured have some improvement, and almost all

See Bariatric Surgery on Page 11.

Diabetes Issue

Successful diabetes management involves a multidisciplinary approach to care. This issue looks at some of the numerous ways that diabetes can impact patients, and how the experts at University Specialty Clinics are addressing these medical issues.

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Study Teaches New Eating Habits

The menu was traditional Southern fare. And even though the black-eyed peas were cooked with lean ham instead of ham hocks, and the collard greens weren't made with fatback, they were surprisingly tasty.

The 23 invited guests ate, talked, and enjoyed the dishes they had prepared together during a low fat cooking class. Everyone in the room shared a common bond in that they or someone in their family had diabetes. The class was one of a series of dietary interventions targeted at high-risk African Americans with type 2 diabetes.

Four dietary education classes were presented in a research study conducted by the University of South Carolina College of Nursing, which also included discussion groups and follow-up by a nurse case manager. The 23 low-income participants in the study ranged in age from 25 to 77 years old, and all resided in rural Fairfield County.

Teaching methods for the classes were based on a prior study by the College of Nursing, which indicated that the African Americans involved learned primarily through experiential methods. "What made this different from standard interventions was the cultural competency piece," said Wanda Anderson-Loftin, R.N., Ph.D., assistant professor, College of Nursing and principal investigator of the study. This meant that Anderson-Loftin and her research team incorporated African American ethnic beliefs, values and traditions into every aspect of the educational efforts. Because of the emphasis on family in their culture, relatives of participants were heartily welcomed to attend the classes led by a local dietitian and a nurse case manager. Resembling a social event more than a lesson, each of the sessions conformed to the custom of centering a get-together around food. "We always served a meal so they could sample lower-fat versions of the foods they liked and see that they tasted good," said Dr. Anderson-Loftin.

Photo by Jennifer Land

"There is a feeling of fatalism about diabetes in the African American community."
Dr. Wanda Anderson-Loftin

A week prior to the cooking class, a lesson was conducted on the food pyramid and healthy meal planning. "This was the first formal diabetes education class ever given in Winnsboro. That's how scarce resources are in rural areas," Dr. Anderson-Loftin said. Another session focused on label reading, a topic that had to be carefully planned in light of a high rate of illiteracy among the participants. The final class was dedicated to meals eaten away from home, and a spread of food was laid out to resemble the varied offerings at a church social. After participants filled their plates, their choices and portion sizes were evaluated. "We'd explain that if they are going to take a piece of red velvet cake, then they need to cut back on carbohydrates and fat in their other selections," Dr. Anderson-Loftin said.

The educational process continued in the monthly discussion groups led by the nurse case manager, who was a certified diabetes educator. Even though the average participant had been diagnosed over ten years ago, much of the time was spent addressing the basics of diabetes. "There is a feeling of fatalism about diabetes in the African American community. They see aunts and uncles dying, getting legs amputated, and going on dialysis," said Dr. Anderson-Loftin, who stresses, "It doesn't have to be that way any more." The

See Eating on Page 5.

Children And Diabetes

Study Examining The Relationship Between Depression And Diabetes

Kids have their own way of grabbing life by the moment and taking it for a ride. Be it a skateboard, a game of Monopoly, or the latest video game, the artifacts of childhood are meant to be fun.

When a diagnosis of diabetes enters a young person's life, many kids adjust well to the lifestyle modifications dictated by the chronic illness and go on about the activities they enjoy. Yet others find themselves struggling with depression. Why do some children with diabetes get depressed? What factors contribute to this? A four-year study that began last fall will be addressing these questions and probing the complex relationship between the two illnesses.

A cooperative research effort between the University of South Carolina Arnold School of Public Health and the School of Medicine, "Exploring Diabetes and Depression in Youth" is also being conducted at the University of Colorado Health Sciences Center in Denver, Colorado. The research is serving as an ancillary study to "SEARCH for Diabetes in Youth," an ongoing multi-site project to determine and classify cases of diabetes in children. Through the work of the University of South Carolina Arnold School of Public Health, approximately 536 children with diabetes have already been identified through the SEARCH effort in South Carolina.

Grant funding has been provided by the National Institute of Mental Health and the National Institute of Diabetes and Digestive and Kidney Diseases for the depression study, which will evaluate three ethnic groups: African American, Hispanic, and non-Hispanic whites. Youth with diabetes and a control group without diabetes between the ages of 10 and 19 will be assessed for depression, anxiety disorders, and other psychiatric problems. Few studies have been done to date with diabetes and psychiatric disorders in the pediatric population. "It's only been relatively recently that we have begun to pay serious attention to mental health issues in children," said Robert McKeown, Ph.D., acting chair, U.S.C. Department of Epidemiology and Biostatistics, and principal investigator of the grant.

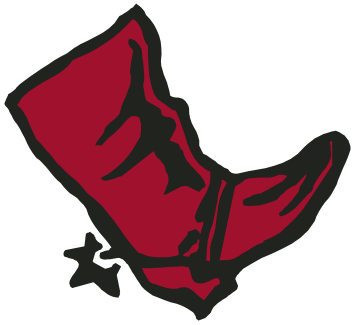
The study will look at the numerous factors that can contribute to depression in a child with diabetes. "The stress of the illness, lifestyle changes, medical complications – all these can have an impact on the family, increasing the stress level and the risk of a mental health problem with that child," explained Dr. Steven Cuffe, associate professor in the Department of Neuropsychiatry and Behavioral Science and co-principal investigator.

The study will be the first to examine depression in children with both type 1 and type 2 diabetes. "We used to think diabetes in children was all one type. Now we are realizing that even children can have type 2 diabetes, or hybrid or other types," said Dr. McKeown. Dr. Cuffe addressed the additional emotional factors that can accompany type 2 diabetes. "These children tend to be overweight and there is a body image issue. A potential pre-existing depression may be in part the cause of the obesity and secondarily the diabetes. That's part of the question: Which comes first the depression or the diabetes?" he said. Though the study will not be able to address this issue directly, it will shed light on the complex associations involved through the use of the control group without diabetes and

See Children And Diabetes on Page 5.

Photo by Jennifer Land

Dr. Steven Cuffe (right) guides 11-year-old Jessica Land (left) through the software program that evaluates children for depression. Jessica was one of a number of children without diabetes used to test run the program.



Good Foot Care Regimen Is Essential To Minimize Diabetic Complications

"These boots are made for walkin' and that's just what they'll do. One of these days these boots are gonna walk all over you..."

Whether it's leather boots or loafers or a pair of Nike Airs, shoes that fit well are a matter of particular importance to people with diabetes. In fact, a daily regimen of foot care is an essential component of self-care for their disease. When seemingly minor foot problems are overlooked or go undetected in an individual with diabetes, potentially serious complications can quickly arise. It's a reality that is all too familiar to Dr. Angus McBryde, Professor, Department of Orthopaedic Surgery.

"Something like an ingrown toenail that wouldn't matter much to you or me can be potentially disastrous for patients with diabetes," Dr. McBryde said. Because diabetes causes nerve damage or "neuropathy" in the feet, cuts or injuries can go unnoticed by patients. They become less likely or unable to feel minor injuries because the feet have lost natural protective sensation. When these feet become "insensate," they also become more prone to infections and the normal healing process is impaired. Changes in the shape of the feet or toes occur such as the development of claw toes or hammertoes. The foot then no longer fits in the shoe properly.

"A superficial pressure or friction blister can quickly turn into a deep ulcer, becoming a major problem," Dr. McBryde said. In addition to the medical treatment he provides for such ulcers, he stressed, "The patient has to get the pressure off the foot totally and immediately." Yet he recognizes that sometimes, "This can be hard to do for someone with an active lifestyle or someone who can't walk well on crutches."

Photo by Bryan Cox

Dr. Angus McBryde performs an exam of a patient's foot.

Recreational athletes with type 1 or type 2 diabetes who suffer foot complications present an additional challenge to Dr. McBryde, one of three orthopaedic surgeons that staff the USC Sports Medicine Center. The key is determining how these individuals can stay active without contributing to or exacerbating a problem. "They have to get into an activity that won't let them get into trouble such as biking or swimming or using a soft treadmill with the right kind of shoe," he said.

If an infection becomes severe enough, amputation of a toe, foot or leg may be necessary. An estimated 54,000 amputations are done each year on people with diabetes. While the nature of the disease increases the risk for amputation, Dr. McBryde noted that good foot care could significantly postpone or abort the necessity of such a traumatic intervention.

Grooming needs to be a careful process, such as keeping toenails trimmed and making sure the space between the toes is clean and dry. Shoes should be chosen with care. "The proper type of shoes cannot be overemphasized, and if necessary patients need to be fitted for shoes that have extra depth and/or custom molded orthoses to better support the foot," he said. And while he stresses diligence for patients with diabetes to protect their feet, the task doesn't have to be a daunting one. **"**Routine foot care is basically common sense. It's all about avoiding acute and chronic injuries and taking good care of the skin."

Children And Diabetes (From Page 3)

children with both pre-existing and newly diagnosed diabetes.

The research will delve into how depression affects children's diabetes management and glucose control, medical complications and overall quality of life. "We are going to be looking at some measures of coping, to see how diabetes affects these children and how they cope with it," said Dr. McKeown. Family and parenting issues will be explored as well. "Parents have to walk that line between helping their child manage their illness and appropriately parenting the child. A parent who is overly controlling and doesn't allow the child to develop autonomy and independence as he or she moves through childhood and adolescence may produce non-compliance by the child and a lot of increased stress," said Dr. Cuffe.

The first two years of the grant will be involved in data collection and diagnostic assessment of youth. The assessment began this summer with a computer-administered survey that guides the children and adolescents through an interview process. As the study proceeds, Dr. Cuffe and Dr. McKeown hope to gain a better understanding of the risk factors that contribute to depression in young people with diabetes and the best interventions to reduce the prevalence of depression in this group. "We are dealing with a growing problem with particular relevance in South Carolina, one that hits minority groups pretty hard. If we can get a better handle on it, we may be able to make some headway in reducing the disparities that are all too evident in South Carolina with black and white populations," said Dr. McKeown.

Dr. Cuffe is encouraged by the possibilities the results can provide for children with diabetes and their families. "Once we understand the association between diabetes and depression, we can get the children with depression into treatment. And if we can use the findings to prevent depression in the first place, that would be ideal," Dr. Cuffe said.

Managed Care Credentialing Update

Clinical Faculty Appointments
Since April 1, 2003

Department of Family and Preventive Medicine

Robert M. Callis, M.D.
Volunteer Attending, Department of Family and Preventive Medicine

Rachel L. Setzler, M.D.
Assistant Professor of Family and Preventive Medicine

Department of Internal Medicine

David J. Amrol, M.D.
Assistant Professor of Clinical Internal Medicine

Donna Dawkins Ray, M.D.
Assistant Professor of Clinical Internal Medicine

Department of Neuropsychiatry And Behavioral Science

John E. Bragg, Jr., M.D.
Instructor of Clinical Neuropsychiatry and Behavioral Science

Miroslav Cuturic, M.D.
HPI Assistant Professor of Clinical Neuropsychiatry and Behavioral Science

James M. Ferrin, Ph.D.
Assistant Professor of Clinical Neuropsychiatry and Behavioral Science

Department of OB/Gyn

Jason A. Hood, M.D.
Instructor of Clinical Obstetrics and Gynecology

Department of Orthopaedic Surgery

Christopher G. Mazoué, M.D.
Assistant Professor of Clinical Orthopaedic Surgery

Department of Pediatrics

Jennifer G. Amrol, M.D.
Instructor of Clinical Pediatrics

Lee S. Carson, M.D.
Clinical Assistant Professor of Pediatrics

Tim S. Livingston, M.D.
Assistant Professor of Clinical Pediatrics

College of Nursing

Christine Milligan-Jones
Nurse Practitioner
Children & Family Healthcare Center

The last quarterly credentialing meeting was held on June 9. The next credentialing meeting will be held on September 15. For information on future meetings, contact Susan Wilhelm at 255.3417.

Eating (From Pg. 2)

other component of the study consisted of regular phone calls and at least one home visit to each individual by the nurse case manager. This consistent follow-up made a strong, positive impact. "They knew she cared because she called every week. They would talk to her about problems with their kids, jobs, and bills, the things that would shoot up their sugar," said Dr. Anderson-Loftin.

Five months after the study, a significant decrease in A1C blood glucose level was found among the participants. The results also showed a significant improvement in fat-related dietary habits and a decrease in the number of acute care visits to the emergency department. In addition, a trend was observed in reduction of lipids and weight, although it was not statistically significant. Cognizant of the small sample involved in the study, Dr. Anderson-Loftin is looking forward to additional research on dietary management that can benefit African Americans who reside in rural areas such

See Additional Research on Page 11.

Kids Find Common Ground

Photo by Cindy Lawrimore, MN, FNP

A nervous little girl sang a solo. A boy counted to one hundred in Spanish. A trio dressed in stars and stripes performed the national anthem. As one child after another took the stage, an audience of their peers cheered them on with chants of "You go, girl!" and "Julia rules!"

To the casual observer, the event would appear to be a talent show at any summer camp. Only a closer inspection would reveal that the colorful wristbands all the campers sported weren't friendship bracelets, but a means of identifying the number of calories each child was permitted to consume. And the small devices clipped to many waistbands weren't beepers, but pumps delivering a steady flow of insulin to bodies that weren't producing insulin on their own. The children in attendance at this camp have diabetes (their siblings and friends are also welcome to attend), and their entire experience at Camp Adam Fisher is structured to help them learn more about diabetes and to interact with others who also live with the disease.

Now in its 36th year, Camp Adam Fisher is a collaborative project between the Medical University of South Carolina and the University of South Carolina School of Medicine, and operates with the support of the Diabetes Initiative of South Carolina. (see insert). For the past six years Elizabeth Todd Heckel, a social worker in the Department of Family and Preventive Medicine and a certified diabetes educator, has served as the camp's program director. Every summer between 150 and 180 children from ages 7 to 17 spend a week at a wooded retreat on Lake Marion in Summerton. While fun is spelled out innumerable ways, from canoeing and cookouts to basketball and blobbing (a popular waterfront activity involving a huge canvas balloon and children being propelled into the lake), there is no question that the week is dedicated to the specific needs of children with type 1 and type 2 diabetes. "All of the activities are based on healthy diabetes management," said Todd Heckel, noting that every day starts with testing blood sugars.

Photo by Dan Longyhore

"My goal is for them to never use diabetes as an excuse to keep them from what they want to do in life."
-- Elizabeth Todd Heckel

Blood sugars continue to be tested throughout each day, and the campers' lineup of meals and snacks are carefully planned in advance to meet required carbohydrate levels. A volunteer infirmary staff of over 50 health care professionals monitors the children's health status, handles any medical problems that arise, and teaches the campers skills and strategies for managing diabetes on a day-to-day basis.

A good bit of learning also occurs at Camp Adam Fisher as the campers share their experiences among themselves. Now a counselor, 22-year-old Maria McGregor has been attending since she was in the first grade. "I was the only one in my school with diabetes. Camp let me know other kids were out there with the same thing." She also found that, "Through different stages of your life the camp helps you with different things." For 18-year-old counselor Lauren Mobley, her own learning process continues even as she provides guidance to the younger girls in her charge. As she prepared to enter Furman University in the fall she noted, "My best friend from camp has been giving me ideas on how to manage my diabetes and situations like stay ing up until two in the morning to do studying."

Learning also takes place through modeling. Dietitian Stephanie Peter, who herself has diabetes, has watched the number of children using insulin pumps instead of injections increase each summer in the three years she has volunteered at camp. "They see other kids on the pump and how normal they are, and they want to go on it," she said.

Campers find a comforting acceptance from others who share the ins

At Camp Adam Fisher

and outs of diabetes, which schoolmates and even friends don't always understand. McGregor recalls sleepovers as she was growing up when her mom had to tag along to take care of her. Mobley struggled with the fact that she needed to have snacks in class, where no one else was allowed to eat. At camp no explanations are necessary. "Today we mud wrestled, and if you had to

Photo by Cindy Lawrimore, MN, FNP

stop because your blood sugar was low nobody cared," Mobley said.

As friendships develop, campers stay in touch when they go back home to communities around the state. They also look forward to seeing familiar faces as many return to Camp Adam Fisher year after year. "Friends from camp are awesome," Mobley said simply. "The friend you make at camp is somebody who truly understands what you are going through," said Todd Heckel. She explained, "It gives you someone you can pick up the phone with and say, 'I have just about had it with pricking my finger!'"

Campers and counselors aren't the only ones who look forward to their annual week at camp. Many of the nurses, physicians, dietitians and pharmacists on staff have been volunteering their time for years, including the four faculty members from the USC School of Medicine who were on board this year. "They like the camaraderie and the fun. We have all become good friends working towards a common goal of providing a really unique experience for these children," said Todd Heckel. "It truly is the Camp Adam Fisher family," she added. Even though Peter moved from South Carolina to Illinois last year, she felt herself drawn back this summer. "Diabetes is my passion. I know what it's like to be in these kids' shoes," she said.

As children, teens, and adults learn and play at Camp Adam Fisher, the impact of their time together is evident. "I've watched a number of children grow up at this camp. I've seen kids take more responsibility for their diabetes management, and kids become role models for younger

Photo by Cindy Lawrimore, MN, FNP

children. My goal is for them to never use diabetes as an excuse to keep them from what they want to do in life," Todd Heckel said. Mobley couldn't agree more. "Camp shows you that you can be a normal kid. You just have to test your blood sugars," she said.

Support From The Diabetes Initiative

The Diabetes Initiative of South Carolina was created through legislation in 1994 to address the prevalence of diabetes in the state through community outreach, education, and surveillance programs. The initiative unites the resources of health professionals throughout the state, drawing leadership from both the Medical University of South Carolina and the University of South Carolina School of Medicine. In addition to a Diabetes Center of Excellence at MUSC, an initiative site is based at the USC School of Medicine. Camp Adam Fisher is one of the ongoing projects supported by the Diabetes Initiative of South Carolina.

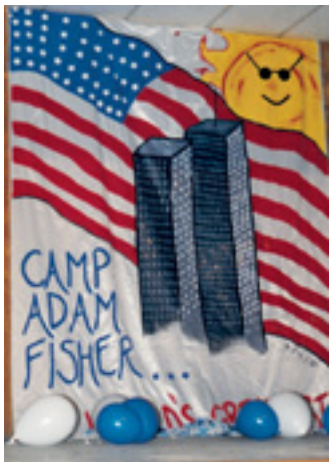


Photo by Diane Epperly

This year Camp Adam Fisher became a 501-C-3 not-for-profit organization. Monies used to manage the almost $100,000 budget are raised by volunteers with in-kind support from the University of South Carolina School of Medicine and the Medical University of South Carolina. Financial support is also provided by numerous foundations including Central Carolina Community Foundation and the Spartanburg Community Foundation.

Students Learn Process of Diabetes Education

Not A "One -Shot Deal"

"They see the syringe with this deer-in-the-headlights look and say, 'You don't mean we have to stick ourselves?' I tell them that if they are this fearful or reluctant, to think about their patients. This is exactly how their patients will feel."

Dr. Sharm Steadman cannot emphasize the point enough: A diagnosis of diabetes is a life-changing pronouncement for patients, who must learn a new and lifelong regimen of self-care and regular medical attention. "My goal is getting the students to realize that it's not a one- shot deal, that all the information given at the time of the initial diagnosis is seldom heard or retained," said the pharmacist and professor in the Department of Family and Preventive Medicine.

A component of their eight-week Family Medicine clerkship, third-year medical students attend a three-hour experiential workshop on diabetes management. The interactive seminar is taught by a multidisciplinary team including a family physician, clinical pharmacist, registered dietitian, nurse practitioner, and certified diabetes educator. Students are introduced to the value of a team approach to treatment. "The physician can come up with a medical plan, but the management of diabetes requires ongoing education and participation and buy-in from the patient. The physician doesn't have the time or expertise to do it all with the patient," said Dr. Steadman.

By taking diabetes care out of the textbook and literally into their own hands, students gain insight into what it's like to live with diabetes on a daily basis. Through four hands-on learning stations they learn about nutrition, foot care, blood glucose monitoring, and insulin administration. Reluctance to perform finger sticks on themselves is not uncommon among the medical students. "It is very much an eye-opener, particularly when we talk about how frequently patients have to check their blood sugar," said Dr. Steadman. She added, "We want the students to understand how important it is that patients do monitoring. Otherwise we are really guessing on how to put patients' therapy together."

As at each of the other stations, instruction about foot care is accompanied by an immediate practical application. Socks and shoes are removed as the students practice doing monofilament tests on each other to assess for neuropathy. "We reinforce that a foot exam should be part of every single visit when treating a patient with diabetes," Dr. Steadman said. During the course of the three hours, students are also educated on the economics of diabetes care. "They have no concept of how much the test strips and insulin cost, and are always shocked by that," said Dr. Steadman.

Over the last three years since the workshop has been introduced, student feedback has been overwhelmingly positive and they appreciate the opportunity to take an active role in the learning process. "They gain a greater awareness of all the different pieces that need to fall into place for patients with diabetes to reach their control goals," said Dr. Steadman. "The medical students also gain a better understanding of how patients feel when they have been told they have diabetes," she said.

Photo by Keith McGraw

Former medical students Leslie Johnson (left) and Mary Busowski (center) learned about blood glucose monitoring from diabetes educator Elizabeth Todd Heckel (right).

Research Explores The Use Of *Patient-Centered Care* In Effective Diabetes Management

A 52-year-old custodian, Leo has Type II diabetes. After his internist greets him in the exam room, Leo wastes no time getting to the day's business at hand. "My schedule has been affecting my blood sugars lately," he explains to the physician. He continues, "What we really need to do today is to come up with a way that I can still put in some overtime hours without my blood sugar dipping so low by the end of the shift."

The way Leo took the lead and determined the goal he wanted to achieve during his appointment represents a significant shift from the traditional doctor/patient relationship. While he is a fictional patient, his scenario is one that is slowly starting to take hold within the field of medicine. This patient-centered approach to health care has been found to be particularly successful among groups of well-educated Caucasians who have been introduced to it in certain parts of the United States. Until recently, low-income individuals like Leo have not been exposed to patient-centered care, nor has its effectiveness been studied in poor and minority populations. Yet for the past year Dr. Patricia Witherspoon, associate professor in the Department of Family and Preventive Medicine, has been doing just that.

"The patient with diabetes is not living in a vacuum, and factors like finances and emotional state play a part. With the patient-centered approach we acknowledge the psychosocial aspects of their disease," Dr. Witherspoon said. The study underway by Dr. Witherspoon and her research team has centered on three components: 1) focus groups with patients in the targeted population, 2) a Family Practice Center provider survey on patient-centered care, and 3) development of a diabetes patient registry.

Photo by Bryan Cox

Dr. Patricia Witherspoon

Focus Groups

Eight focus groups were held with patients who receive care for their diabetes from the Family Practice Center. While the participants were generally satisfied with the care provided by faculty members and residents, the common thread that emerged from the groups was that the patients felt a real need for ongoing education to help them manage their chronic illness. "We got the sense that people really do care about their diabetes; they just don't have the tools they need," said Dr. Witherspoon.

Dr. Witherspoon explained that one way to meet educational needs would be through cluster visits, a concept that has been introduced in some cities. For patients with diabetes, this would mean that a number of them would be scheduled for physician appointments on the same day. Before they saw their doctor individually, all patients would attend an educational class on a particular topic provided by a health care professional. Ample opportunities would be available for questions and discussion. "This way when patients see the doctor they can be very knowledgeable and know what they want to ask. It would be a more efficient visit," Dr. Witherspoon said.

The focus group participants were also interested in the idea of a hotline. Instead of having to make an appointment to address a simple question, they could leave a message on a dedicated diabetes hotline and receive a return call from the physician's office the same day. Dr. Witherspoon sees the proposition as a win-win situation. "These patients have a high incidence of coming in to see us. A hotline would give them more control and decrease the burden on the health care system," she said.

Provider Survey

The second component of Dr. Witherspoon's study was a survey given to faculty, residents, and nurse practitioners at the Family

See Patient-Centered Care on Page 11.

Research May Slow Down Damaging Effects Of Diabetic Retinopathy

The prospect of going blind is a scary one. Yet hundreds of thousands of people in South Carolina face a risk of losing their vision because they have diabetes. And the longer they have the disease, the more likely they are to develop diabetic retinopathy, which can lead to blindness if not detected and treated early.

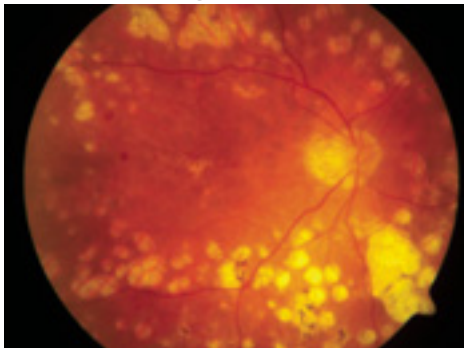
Fortunately some groundbreaking research is paving the way for an oral medication that could stop the blood vessel damage that diabetic retinopathy causes in the retina. Joining other researchers and academic institutions throughout the United States and Europe, Dr. V. Al Pakalnis, a professor in the Department of Ophthalmology, was awarded a four-year grant from Eli Lilly and Company to study the drug.

The standard treatment to date for diabetic retinopathy has been laser surgery. While effective in sealing leaky blood vessels and destroying abnormal blood vessels that form at the back of the eye, the surgery is not without destructive side effects that can impact a patient's vision. The drug being researched, a protein kinase inhibitor, treats the retinopathy in a different manner by slowing down or even halting the production of a harmful enzyme in the body that increases with high sugar levels. "The higher quantities of the enzyme degrade the cell walls and cause cell death. This medicine interrupts the breakdown of the blood vessels in the retina so they don't become leaky," explained Dr. Pakalnis. Patients involved in the four-year study take the medication in a once-a-day pill form and undergo extensive testing, including a series of photographs taken of the retina with a specialized camera.

Photo by Ron Petty

Dr. V. Al Pakalnis explains to Irene Rose Moore how the new drug can be instrumental in stopping additional vision loss.

"We would love to see this drug work. It would be tremendous to have something that's not destructive to slow down this blinding disease, especially since the number of people with diabetes is increasing," said Dr. Pakalnis. The problem in South Carolina is particularly acute, with an estimated 200,000 to 300,000 people in the state who have diabetes. Add to that an almost equal number of South Carolinians who are not yet aware they have the disease. It's not uncommon for individuals to go years before being diagnosed; meanwhile damage to the blood vessels in the retina may already be occurring. The time lag concerns Dr. Pakalnis. "Many people have an inclination not to see a doctor unless they really have to. The whole idea of screening is one that we are not getting over well enough to people, yet prevention of diabetes and diabetic retinopathy is literally one and the same," he said.



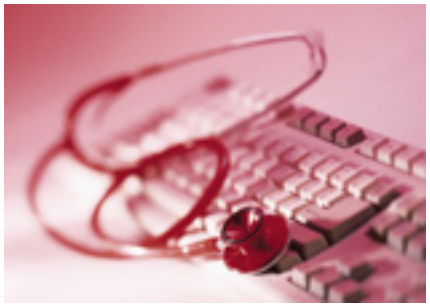
Normal blood vessels are turning into dead scar tissue and blood flow is stopping in this retina due to diabetes. Slowly starving for food and oxygen, the retina will ultimately die, causing loss of vision.

Dr. Pakalnis was one of several faculty members in the Department of Ophthalmology involved in another study that utilized telemedicine to promote early detection of diabetic retinopathy. Through the research project, patients with diabetes in a medically underserved community were able to have retinal screening exams via a telemedicine hookup at the School of Medicine. "A lot of patients with diabetes don't get that yearly eye exam and they really need to see an ophthalmologist," Dr. Pakalnis said.

When coupled with early detection efforts, the use of the protein kinase inhibitor under study could prove to safeguard the vision of people with diabetes. "We really need something more powerful than we have had available. It would be a fantastic benefit to millions of people," said Dr. Pakalnis.

Patient-Centered Care (From Page 9)

Practice Center. The self-administered survey, DAS-3, examined diabetes-related attitudes. The results found that residents scored lower than faculty in all five components of the survey (seriousness of diabetes, the value of tight glucose control, psychosocial impact of diabetes mellitus, patient autonomy, and the need for special training). In two of the five areas - the need for



special training and patient autonomy - the scores were statistically significant. "Traditionally it is the provider who knows the disease process and must tell the patient what to do. Being so much closer to the traditional medical school curriculum, the residents were not as open minded about patient-centered care," Dr. Witherspoon said. Additionally, residents who were further along in their training tended to have a greater appreciation for taking a new tack to diabetes management. The survey also highlighted the fact that not all providers were ready to adopt the patient-centered approach, indicating that the process will take time to gain a higher level of acceptance.

Registry Developed

Dr. Witherspoon recognized that another way to provide better care to people with diabetes would be for them to be easily identifiable within the system at the Family Practice Center. Since last November she and her team have been involved in the arduous process of identifying some 1,500 patients who receive care there for their diabetes. Every one of their files is labeled with the same prefix, which immediately makes all providers at the Family Practice Center aware of the diabetes diagnosis. This registry provides a vehicle for tracking patient data and allows for better continuity of care. It also proves particularly helpful when patients come in for treatment unrelated to their diabetes or see a particular faculty member or resident for the first time.

While the registry is still undergoing some fine-tuning, Dr. Witherspoon is encouraged about how it can help the level of care provided to people with diabetes in the Midlands. She's also excited about the potential impact of a patient-centered approach to diabetes management. "If we can help patients take care of their diabetes the best they can, then we can improve the lives of 1,500 people," Dr. Witherspoon said. "We can really make a big impact and limit their risk for complications like blindness, renal failure and heart disease. Diabetes is so prevalent in South Carolina. If we can diagnose early and address the complications, it would be a great thing for this state," she said.

Bariatric Surgery (From Page 1)

of the patients who had been on hypoglycemic drugs no longer have to take them," he explained.

Following surgery, patients are put on a low carbohydrate diet. The smaller gastric pouch limits what they can eat at any given time, and the ensuing weight loss alleviates the problem their bodies had in utilizing insulin. "The significant reduction in caloric intake and the reversal in insulin resistance together result in a cure," Dr. Walls said.

Seven months after her surgery, Dantzler no longer struggles with blood sugars that sometimes shot up past 300. "This is unbelievable

Photo by Bryan Cox

Dr. Allan Walls

for me," she said. The numbness in her fingers and arms is gone, and she has ceased to worry about losing her right leg that used to give her so much trouble. Dr. Walls is equally impressed with the results the surgery has achieved for his patients. "After diabetes has been treated for decades upon decades, the impact of the surgery is a fundamental change in diabetes management and quite a staggering advance," he said.

Additional Research

(Cont'd From Page 5)

as Fairfield County. "People don't understand how difficult it is in the rural community because of lack of infrastructure," she said. "The intervention, even in this early stage of development, holds promise for the delivery of diabetes care to vulnerable, underserved rural populations," she added.

Diabetes And Cardiovascular Disease

PATIENTS AT RISK

The statistics are not encouraging. Consider the fact that people with diabetes are two to four times more likely to develop cardiovascular disease. Or look at the harsh reality that more then 75 percent of individuals who have diabetes die from some type of heart or blood vessel disease.

While diabetes increases the risk for cardiovascular disease, it doesn't mean that people have to accept a dose of bad news lying down. In fact, getting up and maintaining regular physical activity is one way to get a handle on a number of risk factors that are within an individual's control. So is cutting back on the heaping platefuls of fried chicken that have been consumed for years, and making a decision to quit lighting up those Marlboros once and for all.

"There are risk factors for cardiovascular disease that one can do something about, and that's where the focus needs to be," said Dr. Don Saunders, Professor Emeritus, Department of Internal Medicine. "Yet you're dealing with human nature. When you ask patients to change their lifestyle and change it forever, that can be a difficult thing to do," he said.

Dr. Don Saunders *Photo by Bryan Cox*

Over the course of an almost 40-year career, Dr. Saunders took the job of patient education seriously. "In the practice of medicine we have a duty to be persuasive and teach patients what we think is the best thing to do," he said. He added, "That doesn't mean the physician has to do all the education, but to take the lead." He commends the wealth of resources that are available nowadays for patients with diabetes. "There are patient educators of many types that are superb. Some people do better when they go to a class where they can relate to other patients. To others written material is helpful, although people shouldn't just be handed a pamphlet."

Sold on the value of patient education, Dr. Saunders referred to the steady decline in the rate of deaths from heart disease that has been taking place in the United States since the 1960s. While he explains that this can be attributed partially to advances in interventions like bypass surgery and angioplasty, he also acknowledges the work done by numerous health organizations in identifying risk factors and making people aware of them. "It does show that you can accomplish something if you really work at it," he said.

Over the last four decades Dr. Saunders found that working with patients who have diabetes to help them avoid cardiac complications could be a complex process. "The practice of medicine is not just fixing people like an auto mechanic. It's working with human beings and trying to bring them on board so that they understand," he said.

Connections is published three times a year by University Specialty Clinics to enhance connections among member physicians. Comments and suggestions for articles are welcomed.

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