National Kidney Foundation™

Family Focus

A publication of the National Kidney Foundation

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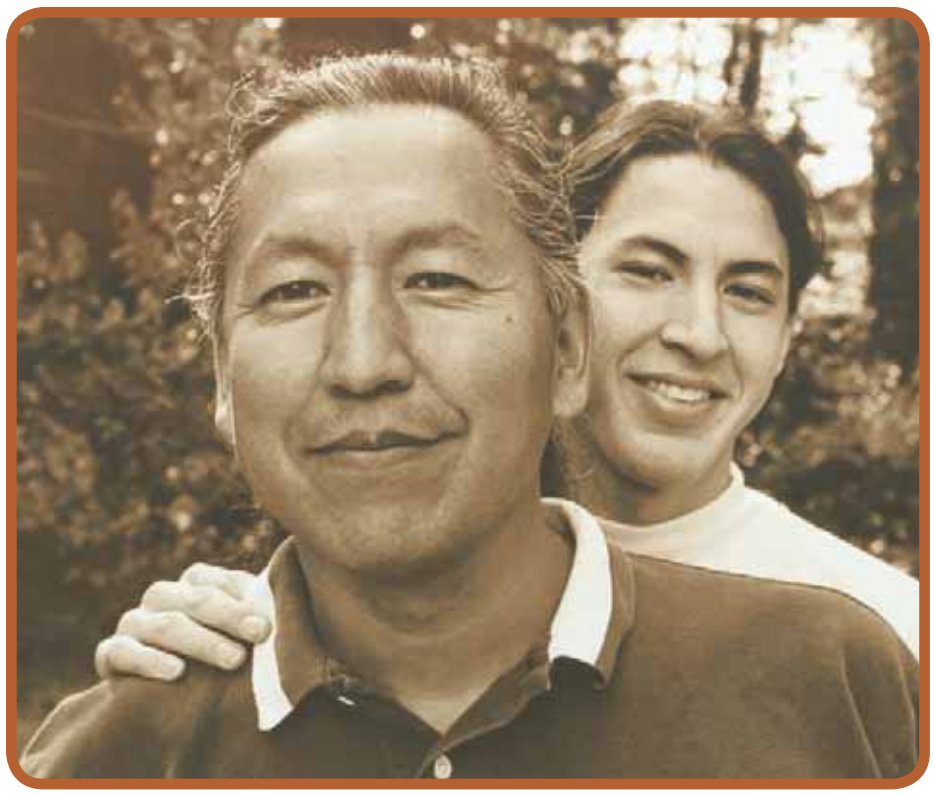
WHAT YOU SHOULD KNOW ABOUT DIABETES

Inside this issue:

Diabetes and Kidney Disease Run in Families

By Andrew Narva, MD



If you have chronic kidney disease (CKD), you are among the 20 million Americans living with some level of impaired kidney function. People of all ages and races are at risk for kidney disease, but African Americans, Native Americans and Hispanics are more likely than other ethnic groups to develop kidney failure. In fact, African Americans are four times more likely, and Native Americans and Hispanics are two times more likely than Caucasians to be diagnosed with kidney failure.

A major reason for this is that people within these groups are at a higher risk of developing diabetes—the leading cause of kidney failure. But it does not have to be this way. The connection between diabetes and kidney disease can be broken, and you can help.

You may know that both kidney disease and diabetes run in families. If you are African American, Native American or Hispanic and your kidney disease is caused by diabetes, it is critical that you speak with your family members. Speak to family members who have diabetes about managing their condition and preventing kidney failure; speak to those who do not about testing and prevention.

Here are some helpful messages to guide your conversations. Feel free to read from this like a script or adapt it.

Tell family members with diabetes:

- **Testing is the only way** to know if you have kidney disease. Talk to your doctor about getting blood and urine tests that diagnose kidney problems. Even if tests show that your kidneys are fine, make sure the doctor checks your urine and blood yearly.
- **If tests show signs of lower kidney function**, your doctor should talk with you about treatment and important lifestyle changes. Often, medications prescribed for high blood pressure, such as ACE inhibitors and Angiotensin receptor blockers (ARBs), can help keep kidneys healthier longer.
- **If you feel uncertain** about whether you are managing your diabetes properly and effectively, talk to your doctor and diabetes educator about how to better manage your disease.
- **If you have high blood pressure**, work hard to

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Diabetes. I can recall a time when I had no idea about the seriousness of this disease. I naïvely thought if one was diagnosed with diabetes, all that was required was to not eat sweets and take a pill or insulin shot. Once I began working in the field of dialysis and kidney transplantation, I realized just how naïve and uninformed I had been. In and of itself, diabetes is a serious illness. It is not always easy to manage, and it can have a major impact on a person's life. Diabetes can also lead to other medical complications, many of which are serious and life altering. As you may know, more individuals have chronic kidney disease due to diabetes than from any other cause. If you have diabetes, it is our intent with this issue of *Family Focus* to assist you in managing it in all respects: medically, physically, nutritionally and emotionally. You can live a long, good life with chronic kidney disease and diabetes.

Karren King

In closing, I want to acknowledge the entire *Family Focus* Editorial Board, as sadly, this is the final issue of the newspaper. I have served as the editor for the past 10 years, and Wendy Weinstock Brown, Lori Fedje and Dolph Chianchiano have been invaluable members of the Editorial Board throughout that time. More recent members of the Editorial Board include Patricia Gordon, Mary Beth Callahan, Sally Burrows-Hudson, Nancy Swick and the late Josephine Mahi. The countless time and effort they, too, have given is greatly appreciated.

Lastly, Jeffrey Fadrowski joined *Family Focus* as Pediatric Editor for this issue. He replaced Barbara Fivush, who served as the Pediatric Editor for several years. Barbara's expertise, insight and humor were always welcome and beneficial. The End Stage Renal Disease Network liaison, Kimberly Thompson, provided helpful information about Network activities which impact our readers. In addition to these wonderful individuals, there are countless other Editorial Board members who came before them, who I also want to thank, especially Nancy Spinozzi, who very ably served as the newspaper's first editor. There are four key National Kidney Foundation staff members, Gigi Politoski, Sara Kosowsky, Sheila Weiner and Oumaya Abi Saab, who without them, *Family Focus* may never have been, and with them, *Family Focus* has risen to be recognized as the kidney community's top patient publication, with a circulation of over 330,000.

Thank you to our readers and supporters. It is our hope that in its 16 year history, *Family Focus* has lifted your spirits and given you the knowledge that has allowed you to partner successfully with your health care team and ultimately lead a long, quality life with chronic kidney disease.

The NKF also wishes to acknowledge Amgen for its support of *Family Focus*. The NKF also hopes to bring you another publication soon.

Karren King, MSW, ACSW, LCSW
For the Editorial Board

Family Focus

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Opinions expressed in this newspaper do not necessarily represent the position of the National Kidney Foundation.

NKF's "People Like Us" Take Action Network

GET INVOLVED AND MAKE YOUR VOICE HEARD on issues related to chronic kidney disease, donation and transplantation by joining the "People Like Us" Take Action network. By signing up at **www.kidney.org/takeaction**, you will receive:

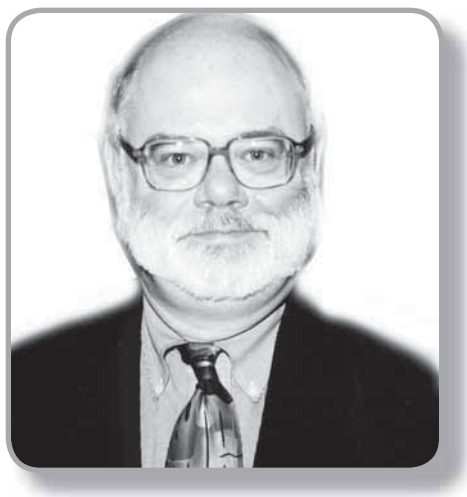
- **Information** about important public policy issues and other issues
- **E-mail alerts** when it is time to take action on legislation impacting CKD, transplantation, and organ and tissue donation
- **Sample letters** you can personalize and send to your Members of Congress with a click of your mouse.

***You can also help build the "People Like Us" Take Action network by asking your family and friends to join! For more information, call* 800.889.9559.**

Something Big Is Being Planned and We Can't Do it Without You

By John Davis, NKF CEO

Last year the National Kidney Foundation's (NKF) patient and family newspaper *Family Focus* celebrated its 15th anniversary. For 16 years now, *Family Focus* has been the most widely read and circulated publication for people affected by chronic kidney disease (CKD). As is often the case with reaching such a major milestone, it affords us the opportunity to look at how far we have come and turn our thoughts to where we are going in the future. NKF's *Family Focus* has always strived to bring those with CKD and their loved ones what we believe to be the most relevant and important information regarding kidney disease, its treatment, lifestyle challenges, nutrition and more. Most importantly, it has provided encouragement and support for hundreds of thousands of you so that you could be effective advocates for your own health care. At the same time it has never forgotten



John Davis, NKF CEO

that chronic illness is a family affair and so, in addition to the many submissions from those who have CKD, *Family Focus* has always included stories and articles by and for family members. We are proud of the impact that *Family Focus* has had on the entire kidney community and now again with your help we want to do even more.

The National Kidney Foundation is currently working on a new concept for a patient and family newsletter. Though it may look a little different from *Family Focus*, it will still provide a forum for stories, poems, recipes, exercises, coping tips and news about medical advances, and in addition, include new features that involve readers in different ways. The most important thing is that it will remain your publication, so we would like to hear your thoughts on what you would like this new publication to be. You can help the NKF create the new publication by sending ideas and comments to **patientsubs@kidney.org** or drop us a note at National Kidney Foundation, 30 East 33 Street, New York, NY, 10016, Att: Patientsubs. This is an exciting time and we look forward to what we will come up with together!

I want to take this opportunity to thank Karren King, the current editor of *Family Focus*, and Nancy Spinozzi, the first editor of *Family Focus*, as well as their entire editorial boards. These dedicated volunteers have devoted countless hours of their personal time to produce the kidney community's newspaper. Thank you as well to NKF staff members Gigi Politoski, Sara Kosowsky, Sheila Weiner, Tracy Forston, Oumaya Abi Saab and Monica Sirignano for giving so much of their time, energy and creativity to this newspaper. The combination of volunteer and staff talent and dedication to this publication has made it the incredible resource it has been for over 16 years.

Diabetes and Kidney Disease... *Continued from page 1*

keep it under 130/80 mm Hg. That means taking your medications as directed. The higher your blood pressure, the faster the decline in kidney function.

Tell family members who have not been diagnosed with diabetes:

- **Get tested for diabetes**. Family history, along with other factors such as race/ethnicity, weight, activity level and age, affect your risk for diabetes.
- **If you learn that you have diabetes**, there are things you can do to manage it and keep your kidneys healthy. (See the previous parts of this article for more information.)
- **If you do not have diabetes**, ask your doctor how to prevent it. Following your doctor's advice will also lower your chances for heart problems and other serious medical conditions.
- **If you have high blood pressure**, work with your doctor to keep it under 130/80 mm Hg. High blood pressure is the second leading cause of kidney failure, which is one reason why it must be controlled.
- **Make sure your doctor tests your blood and urine** for kidney disease yearly.

For a list of materials on diabetes and kidney disease, see the National Kidney Foundation's Web site at **www.kidney.org**. You can also look at NKF's A to Z Guide at **www.kidney.org/atoz/index.cfm**. Or visit the National Kidney Disease Education Program's (NKDEP) Web site at **www.nkdep.nih.gov**.

As a person living with kidney disease, you are uniquely qualified to talk about the importance of doing everything possible to keep the kidneys healthy. We all tend to place a lot of trust in friends and family as sources of health care information. Use that trust and your experience to help break the connection between diabetes and kidney disease in your family!

Dr. Andrew Narva, a nephrologist, is the director of the National Kidney Disease Education Program (NKDEP). Prior to coming to NKDEP, Dr. Narva established and led the Indian Health Service (IHS) Kidney Disease Program. IHS serves communities with the highest rates of treated kidney failure in the world.

It is never too early to think about kidney disease prevention. Type 2 diabetes is on the rise among children and teens, placing them at risk for kidney disease at an earlier age. Obesity is one of the major causes. By encouraging the young people in your family to eat healthy and stay active, you can help them avoid diabetes, kidney disease, and other conditions affecting the older adults in your family.

Being Overweight: A Growing Problem for Kids, Too

By Jeffrey J. Fadrowski, MD, MHS

Much attention has been given to the ballooning waistlines of Americans over the last several years, and many refer to this trend as an "epidemic." Statistics back this claim. The number of obese adults older than 20 years of age ***doubled*** between 1980 and 2002. During that same period, the number of overweight children aged 6 to 19 ***tripled*** (1, 2). A recent study found that 17 percent of U.S. children and adolescents were overweight and 32 percent of U.S. adults were obese (3).

WHAT IS THE DEFINITION?

Terms such as overweight and obese are generally used to describe people with too much body fat. The most common measurement for defining these terms is the body mass index (BMI). BMI, a measure of weight adjusted for height, is favored because it is much easier to determine than the amount of fat in your body. Just like height and weight, BMI varies by age and sex of a child. Therefore, BMI percentiles are used in children. The percentile indicates how the child's BMI number compares to other children of the same age and sex. Children with a BMI greater than the 95th percentile are considered overweight, and children between the 85th and 95th percentile are "at risk." A health care provider can help determine your child's BMI percentile, or you can calculate it yourself if you have your child's recent height and weight. A BMI calculator can be found at the Centers for Disease Control and Prevention (CDC) Web site: **http://apps.nccd.cdc.gov/dnpabmi/Calculator.aspx** (4).

A health care provider can help determine your child's BMI percentile.

WHY IS IT DANGEROUS FOR CHILDREN TO BE OVERWEIGHT?

Many studies show that being overweight is linked to multiple health problems in both children and adults. Those who are overweight are more likely to have diabetes, high blood pressure, high cholesterol, stroke, heart disease, asthma, sleep problems, gallbladder disease, joint problems and some cancers. Children who are overweight may also be the target of social discrimination (i.e., they get mocked). The stress connected with this may cause low self-esteem, which can disrupt many aspects of a child's life (5). Overweight children and teenagers are also more likely to become overweight adults (6, 7). For many of the health problems described above, longer exposure to the risk factor (being overweight) makes developing the problem more likely.

CAN BEING OVERWEIGHT AFFECT THE KIDNEYS?

Yes! The leading causes of kidney disease in adults are diabetes and high blood pressure. Being overweight increases the chances of developing these diseases and makes the problems resulting from them more severe.

WHY ARE CHILDREN OVERWEIGHT?

In adults and children, being overweight results from an imbalance between calories taken in and calories used. The CDC explains that although this is a simple concept, a number of factors, including genetic, behavioral and environmental, add to the problem. Finding and "fixing" these is a big challenge. Some examples of "behavioral" factors listed by the CDC include: larger portion sizes, frequent snacks, drinking beverages with added sugar (juices, soda), less participation in physical activity during school and more time spent with media (DVDs, TV and video games), which in turn leads to sedentary (inactive) behavior (8).

Being overweight can affect the kidneys.

LEARN MORE ABOUT THE PROBLEM!

Your child's health care provider will help determine if your child is overweight, and if so, he or she will help come up with a plan for achieving a more healthy weight for your child. But you need not wait for your next appointment to learn about healthy choices! Given the scope of the problem, there is a lot of excellent information available regarding overweight children. A few Web sites are suggested below. Children are much more successful at keeping a healthy weight if the whole family joins in healthy eating and lifestyle choices. What is good for your child will be good for you!

From the CDC: **www.cdc.gov/nccdphp/dnpa/obesity/childhood/index.htm**

From the NKF: **www.kidney.org/atoz/atozItem.cfm?id=131**

From the American Academy of Pediatrics (select the AAP Overweight and Obesity Web site link) **www.aap.org/healthtopics/overweight.cfm**

REFERENCES:

1. Flegal KM, Carroll MD, Ogden CL, et al.: Prevalence and trends in obesity among US adults, 1999-2000. Jama 288:1723-7, 2002
2. Ogden CL, Flegal KM, Carroll MD, et al.: Prevalence and trends in overweight among US children and adolescents, 1999-2000. Jama 288:1728-32, 2002
3. Ogden CL, Carroll MD, Curtin LR, et al.: Prevalence of overweight and obesity in the United States, 1999-2004. Jama 295:1549-55, 2006
4. Flegal KM, Tabak CJ, Ogden CL: Overweight in children: definitions and interpretation. Health Educ Res 21:755-60, 2006
5. Schwartz MB, Puhl R: Childhood obesity: a societal problem to solve. Obes Rev 4:57-71, 2003
6. Ferraro KF, Thorpe RJ, Jr., Wilkinson JA: The life course of severe obesity: does childhood overweight matter? J Gerontol B Psychol Sci Soc Sci 58: S110-9, 2003
7. *Overweight and Obesity: Home*. CDC. 14 Dec. 2006 **www.cdc.gov/nccdphp/dnpa/obesity/index.htm**
8. *Overweight and Obesity: Childhood Overweight: Contributing Factors*. CDC. 14 Dec. 2006 **www.cdc.gov/nccdphp/dnpa/obesity/childhood/contributing_factors.htm**

Many thanks to our readers for sharing their stories, poems and letters!
To read more submissions from readers visit **www.readfamilyfocus.org**

Living in the Maze of Diabetes

By Phyllis Moir

Living with diabetes can be difficult, but it doesn't have to run your life.

People do not realize how hard it is to live with diabetes. I did not, and now I live with it every day, getting by on "blind faith." By the time I realized that something medically was drastically wrong, diabetes had entrenched itself in my body.

Twenty-five years ago I was diagnosed with the disease. The doctor recommended diet and pills to help control it. After receiving the lecture on what diabetes could do to your body (heart attack, stroke, blindness, finger and toe amputations), I headed home with the pills and an attitude.

Now I have to be honest. I dieted a little but figured that all the bad stuff happened to other people. As I look back, this was the pivotal point in the diabetic maze where I got lost. If I had settled into a strict diet and exercised more, my life might be different today.

In the late 90s things started to go downhill, and the maze got trickier. I was already taking insulin shots but was having a great deal of trouble with bladder infections.

The next thing I noticed was a small dot moving in my right eye. In less than the hour it took to get to the specialist, the sight in that eye was gone. They said that it was aggressive glaucoma. After the loss of sight in my right eye, I suffered through quintuple bypass surgery, amputations of three toes and a diagnosis of arthritis in my spine.

Meanwhile, I was slowly losing sight in my left eye. Even though laser surgery was attempted four times, I lost that battle in October 2003. I remember looking out my front window and seeing the light disappear and my maze sinking into total darkness.

I started hemodialysis in May 2005 and have settled into a treatment schedule of three times a week. I have worked hard to find ways to remain active and combat all the changes in my life. At rehabilitation school for the blind and visually impaired, I learned how to operate a computer and took independent living classes which included cooking and motivational skills. I also learned other helpful skills from visually impaired people like myself.

The technology of a talking computer is one way I have been able to keep working, although not in the same capacity. I went from being the editor of the local paper to writing a monthly column entitled "Blind Faith" that appears in four weekly papers. I also do freelance writing.

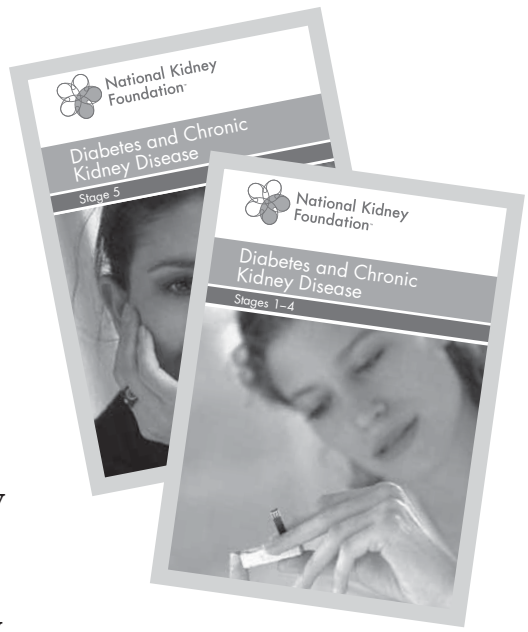
Being an avid reader all of my life, I switched from the printed word to books on tape. I now listen to an average of three to five books a week.

Losing my eyesight put a crimp in all the handiwork I love doing. With great determination, I have been able to relearn how to knit. It meant doing a lot of ripping and tearing at first, but with help from a sighted friend, I am now able to knit a simple pattern. It has really helped me tap into the creative part of my brain, and I receive a great deal of satisfaction when I finish a project.

People ask me how I handle all that has happened to me. I tell them that I find my way through the diabetic maze by getting up every day and thanking God for another day.

My faith is reinforced by the support I receive from my family and friends.

Phyllis Moir, 62, lives in Volga, South Dakota with her husband, Greg. They have two children and five grandchildren. She has held many jobs in her life, including working at South Dakota State University and as managing editor for the RFD NewsGroup, based in Volga. Now that she has entered the diabetic maze, she writes a column entitled "Blind Faith" for the RFD NewsGroup, as well as freelance articles for those papers. She receives her dialysis treatments in Brookings, South Dakota.



DIABETES AND CHRONIC KIDNEY DISEASE brochures are available for order by calling the NKF at 800.622.9010.

The Transformation

By Derrick Moore

I'm different from you but yet
still the same.
My kidney disease is the name
of the game.
From the start of my diagnosis
I felt flawed and damaged,
I didn't think I'd get through the
hard times but I managed.
I had to accept my new lifestyle
and find a new norm,
Rely on a good support team
to help weather the storm.
Depend on my sunshine to
brighten my day,
Call on the Lord to show me
the way.
While dialysis cleanses the impurities
from my body
and my mind
I decided to live my life one smile
at a time.
Once I did this, I found my peace
from within,
I regained control of my life
once again…

Derrick Moore receives dialysis treatment in Louisville, KY.

"Mama Get the Hammer (There's a Fly on Papa's Head)"

By Mary Beth Callahan, ACSW, LCSW

Too bad the folks who wrote this country and western song did not know moderation. Sometimes when you tire of managing a chronic illness like diabetes and all your efforts seem not to be paying off, you may feel like "throwing out the baby with the bath water." But, pardner', when it comes to managing your diabetes, do not go for "overkill" like with "Mama" and "oversight" like with the "baby." Trying to "hit the nail on the head" goes a long way in managing your diabetes and can help you feel better and stay healthy.

Measuring your blood glucose (sugar) can help you manage diabetes.

Sometimes even when you do everything you have been instructed to do, your illness becomes more complicated. This can be frustrating and discouraging, and you might feel like giving up. Sometimes you might not do everything your doctor tells you to do because you forget or it is too complicated, or maybe you do not have the money. Maybe there is not even enough money to go to the doctor. Often you might not realize what will happen if you do not follow the doctor's recommendations. If your illness becomes worse, feelings of guilt may arise for not having done everything you could to fight it. This guilt may also make you feel like you have let down your family.

Diabetes can affect nearly every part of the body, but do not give up and "throw out the baby with the bath water." Doing your best to manage the disease can help you live a fuller life. It is important to pool all your resources, including working with your health care team (your doctor, nurse, social worker, dietitian and diabetes educator) and getting educated about diabetes and its potential side effects. Medicare is a resource that can help you manage your diabetes. If you have another type of insurance, you should see if it provides similar covered services. The following are services and supplies that Medicare pays for:

- Diabetes self-management training
  - Includes a total of 10 hours of training during the first year of referral and two hours of follow-up training in subsequent years. You must get a prescription for training from your doctor. A list of diabetes self-management training programs can be obtained by contacting the American Diabetes Association (ADA) at 800.877.1600 or online at **www.diabetes.org/education/eduprogram.asp**
- Dilated eye exams to check for diabetic eye diseases
- Glaucoma screening
- Insulin
  - (Medicare Part B pays 80 percent if you use an insulin pump; Medicare Part D covers insulin injected with a needle.)

  Medical Nutrition Therapy (MNT)
  - Includes a total of three hours the first year, and an additional two hours in subsequent years. A registered dietitian or qualified nutrition professional provides individualized nutritional counseling regarding your medical conditions, your medications and your personal lifestyle. Covered individuals include those who have chronic kidney disease (CKD) and/or diabetes (does not include people on dialysis). You must get a prescription from your doctor.
  - If you do not have your own dietitian or are not on dialysis, you can find a dietitian by visiting the American Dietetic Association's Web site **www.eatright.org** (search for a dietitian that specializes in kidney disease), or calling 800.877.1600.
- Flu and pneumonococcal pneumonia shots
- Therapeutic shoes. You may need special shoes or inserts to prevent serious foot problems. If you have Medicare Part B, some of these costs may be covered. Ask your doctor whether you qualify for:
  - one pair of therapeutic shoes (look like athletic or walking shoes, but have more room in them) and three pairs of inserts, or
  - one pair of custom molded shoes (including inserts) and two additional pairs of inserts.
- A blood sugar (glucose) monitor and supplies
- Hemoglobin A1C tests, which measure the average level of your blood glucose over the past three months.

Measuring your blood glucose (sugar) can help you manage diabetes. Sometimes test results can trigger strong feelings. They can leave you upset, confused, frustrated, angry or down. Remember, your blood glucose level is a way to track how well your diabetes care plan is working; it is not a judgment of you as a person. The results may indicate you need a change in your plan. Show them to your doctor or diabetes educator. Don't be passive about your care like the bug in the song "A Bug on the Windshield of Life." Bottom line: be an active part of your diabetes management.

Mary Beth Callahan, ACSW, LCSW, is a clinical social worker at Dallas Transplant Institute. She has worked in the field of kidney disease since 1984.

LETTER to the Editor

Dear Editor:

Family Focus is a wonderful publication. It is also very helpful. I've been going to Dialysis in Sauget, Illinois since August 2005. I feel much younger and am also in a good state of mind. I truly can't thank all of the people enough who have made it possible for me to receive help when needed. I would like to give thanks to all.

God Bless You All,
Dennis Cooper

Dennis Cooper dialyzes at the Davita Sauget Dialysis Center in Sauget, Illinois.

Diabetes and Exercise, Getting Started

By Carmen Castaneda-Sceppa, MD, PhD

Exercise plays an important role in managing your diabetes.

Along with diet and medication, physical activity and exercise are the cornerstones of diabetes management. Exercise and physical activity lower blood glucose (sugar), improve insulin action, play a part in weight loss and lower many risk factors for cardiovascular (heart and blood vessel) disease.

The challenge for people with diabetes is incorporating a physical activity or exercise program into their daily living. Before starting any activity, check with your doctor to find out if your medical condition makes it safe.

Physical activities like walking (which are endurance activities) can probably be started sooner than other forms of exercise and can be done alone or with friends. However, an exercise routine takes some planning. Knowing about standard exercise practices, like warming-up and cooling-down, proper foot care and footwear and glucose monitoring, is important.

People with diabetes should wear shoes with enough padding to protect their feet from developing blisters or cracks, which can become infected. Polyester or polyester cotton blend socks keep the feet dry. Precautions should be taken to avoid overheating and dehydration and to prevent injury. Appropriate breathing techniques are also recommended. This means inhaling when you are in a resting position and exhaling when you are exerting the motion. Using this technique avoids increased blood pressure that could damage organs and small vessels. Checking blood sugar before, during and after exercise is also important, as blood glucose levels may change as a result of physical activity. This will help judge one's response to exercise and will avoid a sudden drop in blood glucose.

Because exercise and physical activity may lower blood glucose levels, it is recommended to eat one carbohydrate choice (15 g) for every 30–60 minutes of activity.

Work with your health care team to ensure a safe and productive exercise program.

EXERCISE PRESCRIPTION

The recommended amount and intensity of endurance activities, such as walking, cycling or swimming, vary according to each person's abilities and his or her health care provider's recommendations. Again, it is important to always discuss your exercise prescription with your physician.

To improve glucose control, maintain a healthy weight and lower the risks of cardiovascular disease, high blood pressure and high cholesterol, at least 150 minutes/week of moderate physical activity (at about 50 percent of maximum heart rate) or at least 90 minutes/week of vigorous exercise (at about 70 percent of maximum heart rate) is recommended. Maximum heart rate can be determined by subtracting one's age from 220. For example: a 60-year-old person would have a maximum heart rate of 160 (220–60). The activity should be done at least three days/week, and activities should not be skipped for more than two days in a row. You will lower your risk of cardiovascular disease even more and increase your chances of long-term weight loss with more exercise (seven hours/week of a moderate or vigorous endurance-type physical activity).

Strengthening exercises such as weightlifting are also important for individuals with diabetes, because they build muscle, and muscle aids blood glucose control. People with diabetes should weight-lift three times/week (with a doctor's approval), targeting all major muscle groups of the legs, arms and trunk. They should do three sets of eight to 10 repetitions; weights should be set at levels that cannot be lifted more than eight to 10 times.

More information on exercise guidelines for people with diabetes is available through the American Diabetes Association Web site at **www.diabetes.org** or call 800.DIABETES. Your health care team of doctors, nurses and diabetes educators can give you information on exercise and diabetes, as well.

EXERCISE FOR LIFE

The main goal of an exercise prescription is to ensure safety and benefits. Disease is not a reason to avoid exercise. It may be the most important reason to exercise. For more information on chronic kidney disease and exercise, contact the National Kidney Foundation at 800.622.9010 (ask for a copy of *Staying Fit With Kidney Disease*) or visit **www.kidney.org**

Carmen Castaneda Sceppa, MD, PhD, is an Associate Professor of Nutrition and a Research Scientist at the Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University, Boston, MA.

Her research focus includes the development and testing of exercise and nutrition interventions for older people with diabetes and chronic kidney disease.

Have Faith

By Kenyan White

When times are hard and your life feels scarred,
Have faith…
You have to stay in the race, no matter how awful life seems
You can make it a better place…
You can't live your whole life feeling like it's a waste.
When you have faith you accomplish goals,
Keep moving forward in a positive manner…
even though it's a bumpy road.
When the pressure builds…
Never fold.
As I got older I was told, "life is what you make it,"
But I never believed that 'cause I was born into a situation where I felt trapped.
Living in the 'hood, so many of us go through that…
Coming up in an urban life where we're under attack, not to mention if you're black,
You have to have faith!
Have faith in yourself no matter what you try to do.
If I can't touch everybody, I hope I touch a few.
Most of us need to have faith and remember to do what is right…
because we walk by **faith** not by sight.

Nutrition and the New Guidelines for People with Diabetes and Kidney Disease

By Marianne Hutton, RD, CDE

The National Kidney Foundation has new diabetes guidelines for chronic kidney disease (CKD) and diabetes.[1] This is the first set of Guidelines that integrate the special needs of those with both diabetes and CKD. This growing population is at a heightened risk of heart and blood vessel disease and kidney failure. The *KDOQI™ Clinical Practice Guidelines and Clinical Practice Recommendations for Diabetes and Chronic Kidney Disease* are intended to provide information for health care professionals to assist them in decision making. The Guidelines were published in the *American Journal of Kidney Diseases* in February, 2007. Following are some of the highlights.

Early identification and treatment requires working with a team of health care professionals, including a registered dietitian (RD); it is the best strategy to prevent or delay kidney disease and other problems resulting from diabetes. Ideally, your first visit with a RD should occur when you learn you have Diabetic Kidney Disease (DKD) or CKD, however, many people are not diagnosed early enough (before they need hemodialysis) and most die of heart, blood vessel disease or stroke before they reach the need for hemodialysis. This is the best available test for screening for DKD. The Renal Dietitians Practice Group of the American Dietetic Association recommends nutritional assessment and intervention at the diagnosis of CKD and quarterly thereafter. A person could learn new ways of eating to prevent disease progression by working with a RD at any stage of CKD.

Eligible Medicare Part B beneficiaries may be reimbursed for 80 percent of the cost of an appointment for Medical Nutrition Therapy (MNT) with a RD only when the Glomerular Filtration Rate (GFR) falls below 60. A GFR of 60 is CKD stage 2 (see Table 1, page 14). The fifth or final stage is End Stage Renal Disease (ESRD), or

kidney failure, and at this point, when the person is on dialysis, there is no additional charge for seeing a RD.

Here are some useful tips:

- LEARN ABOUT YOUR GLOMERULAR FILTRATION RATE (GFR)
  The GFR is the best measure of kidney function in people with kidney disease. It is the rate at which the kidney filters the blood of waste products. From your GFR, your doctor can "stage" your kidney disease. To find your CKD stage, discuss your GFR with your doctor, and if you can affect its progression.

- MONITOR YOUR BLOOD SUGAR
  Testing allows you to determine what to do about a result (blood sugar level) that is abnormal. Before meals, aim for a blood sugar level of 90–130 mg/dL. Discuss the benefits versus risks of achieving an even closer to normal target with your doctor or Certified Diabetes Educator. Test yourself after meals to keep your HbA1C (tests which measure your average level of blood sugar over the last three months) and blood sugar levels as close to normal as possible. Use of low glycemic index foods (a measure of carbohydrate effect or spike on blood sugar) may lower after blood sugar readings.

- CONTROL YOUR BLOOD PRESSURE (BP)
  - Limit sodium to less than 2300 milligrams per day.
  - Follow a version of the Dietary Approaches to Stop Hypertension (DASH) diet with less protein, potassium and phosphorus for CKD stages 3 and 4. For more information, you can make an appointment with a RD for Medical Nutrition Therapy, go to the National Heart, Lung and Blood Institute (NHLBI) at **www.nhlbi.nih.gov** or purchase the book, *The DASH Diet for Hypertension* by Thomas Moore, MD.
  - Substitute soy- or vegetable-based proteins and non-fat dairy products for other animal proteins in CKD stages 1 and 2.
  - Consider beginning an exercise program and working with a Certified Personal Trainer.
  - Attain/maintain your ideal weight.

- MANAGE YOUR DIETARY PROTEIN
  Some popular diets suggest high amounts of protein, e.g., Atkins, South Beach, Sugar Busters, The Zone and Protein Power. People with DKD should not consume more than the recommended dietary allowance (RDA) and protein allowances will vary from person to person. For best results, this should be individualized by a RD who will assure enough protein for good health and enough healthy fat and carbohydrates to spare protein for tissue building and repairing. The RDA level recommended is 0.8 grams protein/kg of body weight per day. A RD will compute this based on a person's ideal weight or adjusted ideal weight if the individual is overweight. Half to 75 percent of protein intake should come from lean poultry, fish and soy and vegetable-based proteins.

IDEAL WEIGHT
FEMALE: 100 lbs first 5 feet plus 5 lbs for each additional inch.
MALE: 106 lbs first 5 feet plus 6 lbs for each additional inch.

- MANAGE YOUR DIETARY FAT
  - Eat less red meat and use low- or nonfat dairy products to lower saturated fats.
  - Use canola, flaxseed, walnut, and soybean oil to increase omega-3 and monounsaturated fatty acids.

Continued on page 9

Continued from previous page

- Eat one four to five ounce serving of cold water fish three times a week.

■ EAT MORE FIBER
Carbohydrates from whole grains, fresh vegetables and fruits improve blood sugar and blood fat levels.

■ KEEP FIT
A person with diabetes and CKD should have his or her fitness level checked by a Certified Personal Fitness Trainer and work to improve it.

To find a Diabetes Education Program, call 800.342.2383, or visit **www.diabetes.org**

REFERENCES:

National Kidney Foundation. KDOQI™ Clinical Practice Guidelines and Clinical Practice Recommendations for Diabetes and Chronic Kidney Disease. *Am J Kidney Dis* 49:S1-S180, 2007 (suppl 2)

Wiggans KL (ed): Nutrition Care of Adult pre-ESRD patients, in Guidelines for Nutrition Care of Renal Patients (ed 3). Chicago, IL, American Dietetic Association, 2002, pp 6-13

Marianne Hutton is a registered dietitian and certified diabetes educator. She is an instructor at the Santa Rosa Junior College, the Diabetes Education Program Coordinator at the Northern California Center for Well-Being, and a Renal Dietitian at Fresenius Medical Care in Santa Rosa, California.

Dialysis Days *(Part 1)*

By John Nichols

All that I can do is just survive
Moaning sirens fill the clinic
Dialysis might keep me alive
I'll try hard to curb my cynic

Honesty causes me to dive
Into chasms
To dialysis I arrive
Holding in the spasms

Hungry needles and thirsty
machines thrive
On my fragile body
A break or an exit I truly strive
But I can't play hooky, I can't be
naughty

I dream of going on a long drive
Away from here for weeks,
you know
But this regimen will deprive
Me from my desires to go
Years of transplant average five
So I've been doing time
Compiling a complicated archive
Even though I haven't committed
a crime
Sooner or later I might revive
I'm only in my thirties now
Presently I'm caught in this hive
Getting stung and how.

Part 2 on page 10

Cruise Vacations for the Dialysis Traveler

By Karen Yates, MD, MPH

As a nephrologist who has cruised several times with people on hemodialysis, I am surprised when individuals tell me that when they started dialysis they thought traveling would never be possible for them. Several travel options exist for those on hemodialysis; however, depending on the person and their level of mobility, some options may be more convenient to arrange than others. Dialysis cruising can be a viable option for many individuals who like the convenience of visiting many ports of call without having to pack and unpack a suitcase. Cruise ships have a wide variety of activities to suit many tastes and interests and can be a great way for extended families to travel together so that grandparents and grandchildren can all find something to do. Traveling while on dialysis can be anxiety provoking for many people because they fear losing the security of having experienced nurses around and being able to address issues with their nephrologist. Dialysis cruising provides them with a hemodialysis experience that is similar to what they are accustomed to in their home unit with experienced nurses and an on-board nephrologist who sees them every time they dialyze.

As the on-board nephrologist, I have always found the cruise experience extremely rewarding. People consistently tell me that the vacation has made them feel "human" again. Cruising also provides the person's loved ones (spouse, companion, children) with the opportunity to get away from the day to day challenges of living with a loved one who needs hemodialysis to stay alive. These ships can be like floating "cities" with shopping malls, ice cream parlors, dance clubs, wine bars, climbing walls, mini golf and tranquil spa facilities. People with mobility issues who use walkers or wheelchairs will find that cruise ships are designed to cater to all levels of mobility. Wheelchair accessible rooms are available if you book early. I have traveled with many individuals who choose to

stay on board even at ports-of-call as they find the activities and accessibility on the ship so convenient. For those who choose to explore the various ports, cruising provides them the opportunity to see the world as dialysis cruises are available (through an independent operator) on many cruise lines with itineraries which include Alaska, Hawaii, the Caribbean, Mediterranean, Greece, South East Asia and even Antartica! I am continually amazed at how adventurous some of the dialysis travelers can be. I have had many spouses say that the cruise experience has given their loved one a new "lease on life."

There are safety issues that the person on hemodialysis needs to be aware of. Cruise ships have food available 24 hours a day and they need to be aware of their fluid and dietary restrictions. Fresh fruit on a Caribbean cruise can lead to high potassium levels quite quickly. People are counseled regarding this throughout the cruise and complications are rare. All people on dialysis must have medical forms completed by their nephrologist and must be considered fit to travel. A well functioning dialysis access is crucial but travelers with AV fistulas, grafts and catheters are all able to travel. The one downside is that Medicare will not cover the cost.

Despite the dietary restrictions, individuals tell me that they are able to manage quite well and many are extra careful because they do not want to jeopardize their vacation…one that may be the vacation of a lifetime.

Karen Yeates is a graduate of Queen's Medical School. Dr. Yeates trained in internal medicine in Toronto then completed a fellowship in nephrology at Queen's University in Kingston, Ontario, combined with a Master's in Public Health from Harvard University. She is currently a staff nephrologist and Assistant Professor in the Department of Medicine at Queen's University.

Diabetes and CKD

By Mary Beth Callahan, ACSW/LCSW

You may not be aware that people with kidney disease and diabetes have a higher risk of developing heart and blood vessel problems than people who have kidney disease without diabetes. The National Kidney Foundation (NKF) wanted to learn more about the educational needs of people with diabetes and kidney disease, so that helpful booklets and other new resources could be created. NKF developed a 15-question survey and posted it on their Web site. Three hundred and thirty-one people completed the survey. Fifty-one percent of the respondents were between the ages of 51 and 70. Thirteen percent were on hemodialysis, four percent were on peritoneal dialysis and seven percent had a kidney transplant. Sixty-three percent of those responding had been told that they had kidney disease. Sixty-eight percent of the respondents had Type 2 diabetes, and 67 percent of them have known about their diagnosis for over five years.

OTHER INTERESTING FINDINGS:

- 65 percent of those who completed the survey say that their diabetes care is being provided by a primary care physician.
- 75 percent have high blood pressure.
- 58 percent have known about their high blood pressure for over five years.

EDUCATION ABOUT EARLY SIGNS OF KIDNEY DISEASE

Ninety-three percent of the people who responded had been told that diabetes can cause kidney disease. Half of them knew that albumin (or protein) in the urine was the earliest sign of kidney disease caused by diabetes. Only 19 percent were on medication that lowered the amount of albumin in their urine. Of this 19 percent, 81 percent were also taking an ACE (angiotensin converting enzyme) inhibitor blood pressure medication. Most respondents knew their cholesterol level and HbA1C level. Only 22 percent knew their albumin level and only 12 percent knew their C-reactive protein level. (C-reactive protein is a test that measures the concentration of a protein in serum that indicates acute inflammation.)

LIFESTYLE MODIFICATIONS

Changing lifestyle behaviors can have a positive impact on controlling diabetes and heart disease. Improving certain behaviors may also help prevent kidney disease from getting worse. The NKF's survey showed that, out of all the behaviors, most people were successful at taking medications as prescribed, checking blood sugar as recommended and having routine medical evaluations. However, as we would probably all agree, increasing physical activity and maintaining a healthy diet to control blood pressure and blood sugar is not always easy. See the table below for more information regarding the survey's results on behavior.

The NKF wishes to thank those of you who took the time to complete this survey. The information gathered will be used to create educational information to help people learn more about the relationship of kidney disease, early medical care and diabetes.

BEHAVIOR	NOT ABLE TO DO	ABLE TO DO SOMETIMES	ABLE TO DO AS DIRECTED/NEEDED
Diet for Good Nutrition	6 percent	52 percent	41 percent
Exercise	24 percent	57 percent	19 percent
Not Smoking	22 percent	4 percent	73 percent
Taking All Medicines as Prescribed	5 percent	10 percent	85 percent
Checking Your Blood Sugar	6 percent	29 percent	65 percent
Keeping Blood Sugar within Recommended Target	10 percent	54 percent	36 percent
Having Routine Medical Evaluations	5 percent	17 percent	79 percent
Keeping Blood Pressure within Recommended Target	6 percent	35 percent	60 percent

Dialysis Days *(Part 2)*

By John Nichols

Part 1 on p. 9

On this medical road we have learned to grow
Through the good and bad weather
Acknowledging one another with a hello
Folks on dialysis stick together

Dialysis is our home away from home
It provides us with a foundation
Boosting each of us to roam
Towards kidney transplantation

This medical wonder is a gift
Dialysis will keep us alive
It is a positive lift
With dialysis we can revive

The medical staff dissolves the gap
Between machinery and humanity
Our doctors draw our map
Guiding us reliably

I feel fortunate to be around
My life threatening illnesses are behind me
I am adjusting and feeling sound
And I'm beginning to feel free

I am thankful for my continued recovery
I will soon be able to truly live
I am looking forward to some fresh discoveries
And I'll definitely forgive

John Nichols receives his treatment at Berkeley Dialysis Center in Berkeley, California.

Medicare Improves Coverage for Diabetes Care

By Dolph Chianchiano, JD, MPA

As a result of advocacy efforts by the National Kidney Foundation Council on Renal Nutrition (CRN) and the American Dietetic Association (ADA), the Benefits Improvement and Protection Act of 2000 created an important new Medicare benefit for individuals with diabetes and/or chronic kidney disease (CKD). Effective January 1, 2002, Medicare covers "Medical Nutrition Therapy" (MNT) for those who are not on dialysis but have diabetes and/or chronic kidney disease, including kidney transplant recipients. (People on dialysis receive Medicare-covered MNT through the "composite" rate for dialysis treatments.)

MNT includes an assessment of a person's nutritional status and nutritional counseling from a licensed dietitian or nutrition professional. For example, MNT can help people with CKD who are concerned about malnutrition or who, by a physician's orders, need to restrict their dietary protein intake.

In order to qualify for MNT coverage a physician must refer the individual to a dietitian who participates in this program. Medicare pays for three hours of nutritional counseling during the first year after a beneficiary is referred for MNT services and two hours per year in subsequent years under this benefit. Dietitians can bill Medicare for their services in 15 minute increments. Once an individual receives MNT services, Medicare can cover additional hours if the referring physician determines there is a change in medical condition, diagnosis, or treatment that warrants additional attention.

An analysis of Medicare billing revealed that MNT services have been underutilized. Physicians may not be aware that they can refer their patients for this service and that Medicare will pay for it. The low payment rate has also affected the participation of dietitians in this program, and as a result has limited a person's access to MNT service providers. During the first year of Medicare MNT coverage, it was estimated that less than $1 million was paid out for MNT services. An ADA analysis of 2003-2004 Medicare data showed that Medicare MNT spent approximately $3.3 million for services to 211,000 beneficiaries. In contrast, the Congressional Budget Office projected $60 million in annual Medicare outlays for MNT.

Another problem with the MNT benefit has been its confusion with another Medicare empowerment program for people with diabetes. This benefit, known as Diabetes Self Management Training or DSMT, was enacted three years before MNT and is a comprehensive diabetes training program, which includes nutritional services. Like MNT, Medicare limits the number of hours of DSMT that it will cover per year.

Medical Nutrition Therapy Services Fees

LOCATION	PERIOD	FEES IN 2006	FEES IN 2007	% OF INCREASE
Miami, FL	60 Min	$13.60	$25.72	47.12%
San Francisco, CA	60 Min	$94.28	$133.12	29.17%

Medicare initially proposed that the DSMT benefit would include MNT for individuals with diabetes. Then Medicare decided, effective October 1, 2002, to cover both MNT and DSMT in the same time period, without decreasing the number of hours covered under either benefit, as long as DSMT and MNT are not provided on the same date of service. As a result of this decision, an individual can be trained in self administration of insulin under DSMT and meal planning for individuals with diabetes pursuant to MNT.

Medicare is addressing some of the barriers mentioned above. The 2007 Medicare fee schedule increases the level of payment for dietitians providing MNT services. For example, in Miami, FL, the Medicare payment for zip code 97804 for a 60-minute group session was $13.60. In 2007 for the same location and 60-minute group session, the payment is now $25.72. The CMS 2007 payment amount for individual, initial MNT provided by a non-facility Medicare RD provider in San Francisco, CA is $133.12 for 60 minutes, while for the same location and session time, the payment rate in 2006 was $94.28. Similarly a new Medicare program created by the Medicare Modernization Act of 2003 may address the lack of physician awareness of MNT. This new benefit is called the "Initial Preventive Physical Examination" and it is available to all new Medicare beneficiaries, not only those with diabetes or CKD. As part of the initial preventive physical examination, doctors are supposed to refer individuals for MNT services if they have diabetes and/or CKD. *Family Focus* readers and their families, however, need to be aware of the MNT benefit so that they can discuss it with their health care team.

Dolph Chianchiano is the senior vice president for health policy at the NKF National Organization in New York City.

1995

By George R. Westinghouse

It was 1995 when I first heard
them mention dialysis
Until then it was only a word
That rhymed with paralysis
Exercise and diet are the key
So I hit the pool and gym like
Mohammed Ali

Like Murphy's Law, anything
that
Can go wrong will
My heart skipped a beat when
They said your blood tests are
going downhill
Like all the challenges I've had to
face
4 hours 3 days a week is now the
way
I thank God for the cleansing and
a brand new day

Grafts, shunts, fistulas galore
Porta-caths, sorensons, left side,
right side
My body and mind are sore
That's not to even mention the
unexplainable stuff in
between

I definitely remember the
kindness
And professionalism of the
Dialysis Team
From the Social Worker, Director,
Secretary and many more
They go out of their way to ease
your mind and family
concerns of all kinds

Sometimes they care more than
they should
But I never take them for granted
That would definitely not be
good!!!

Living Well With Chronic Kidney Disease and Diabetes

By Lori Regehr, RN, MS, BC-ADM, CDE

I remember the day my doctor told me that years of diabetes had resulted in Chronic Kidney Disease (CKD). I was scared and uncertain about the future. What did this mean? What could I do to keep myself feeling and doing as well as possible? I was fortunate to have a knowledgeable health care team that took all the right steps. They ordered tests, made referrals, and taught me the self-care I needed to know. Here are some of the things I learned and did.

I discovered I had a good reason to be anxious: CKD dramatically increases my risk for many diabetes complications including heart disease and eye and foot problems. My team reassured me that the tests, exams and procedures ordered for me would detect and treat any possible problems.

First I was referred to a cardiologist (heart doctor). Circulatory problems involving the heart are the leading cause of death for people with diabetes (PWD). My cardiologist did a stress test, checked my blood pressure, cholesterol and other heart-related tests. We adjusted my medications and I was scheduled for regular visits to follow my heart health.

I started checking my blood pressure at home. The goal is to keep my blood pressure under 130/80; if I frequently see pressures at that number or higher I am to contact the doctor. I have my cholesterol panel checked every six months to one year. The total cholesterol should be 200 or less. The HDL cholesterol, which is the good or 'Healthy' type, needs to be 55 or higher because I am a woman. (A man's HDL needs to be 45 or higher.) My LDL, the unhealthy or 'lousy' cholesterol, should stay below 100. Triglycerides are a type of very low density cholesterol that are often high in diabetes. The goal for triglycerides is 150 or less. Some doctors use more aggressive numbers for patients who are at an especially high risk for heart disease.

Cholesterol Rate	
LDL Cholesterol	≥ 100
HDL Cholesterol	≥ 55 (women)
HDL Cholesterol	≥ 45 (men)

This would include people with a family history of heart disease, those with previous blood vessel problems and those with multiple risk factors. The best way to reach and maintain desirable cholesterol levels is to exercise, follow your meal plan and take any medications as the doctor ordered.

I was referred to a podiatrist (a doctor who specializes in care of the feet). My feet were checked for pulses and other signs of circulation like color and warmth. Nerve sensation was evaluated with an instrument called a monofilament, which applies pressure to different areas of the foot to check for numbness. My feet still had normal sensation. We reviewed safe foot care. The instructions included the following:

1. **Wear sturdy shoes** that fit well and are broken in. Use white cotton socks and always check the inside of your shoes for foreign objects before you wear them. Never go barefoot.
2. **Use mild soap** and warm water to wash feet daily. Check water temperature with your hands (burns have been caused by loss of sensation in the feet; often the person is unaware of the changes). Do not soak your feet since this causes excessive dryness and heel cracks. Pat your feet dry and use lotion to keep your skin moist. Avoid getting lotion between toes as it may trigger a fungal infection.
3. **Use a clipper** to trim nails straight across, making sure not to dig in at the corners. Do not use corn removers and never trim calluses yourself. Do not allow a razor to be used in a pedicure.

Going to a podiatrist once a year is important for proper foot care.

4. **Examine your feet** daily for redness, heat or irritation. Call your doctor immediately if there are problems.

I still follow all these instructions today and see my podiatrist once a year for a checkup.

I had my kidney function checked annually prior to my diagnosis of CKD, as all people with diabetes should. The yearly microalbumin test is a simple urine test that looks for very small amounts of protein in the urine. Protein is a large molecule and is not normally found in urine. For years my microalbumin test was normal, but as time progressed, the levels increased. Then the test was used to monitor the development of my CKD. Results of the microalbumin test guided my treatment with diet and medications and evaluated how well each worked. Once I had reached End Stage Renal Disease (kidney failure requiring dialysis or transplant), other tests had to be used to check my status. (Urine output is too scant to use for testing.) It is possible to halt progression of CKD, but not always. However, treatment can significantly slow the advancement of CKD. The good news is that the tools and technology to treat CKD are improving daily.

I then spent some time with my diabetes educator. We reviewed testing blood sugars at home and dietary guidelines. Much of the information had changed since my last visit a few years earlier: my meter needed updating (advisable to replace after 3–4 years), the goals for blood sugar control were lower, and insulin pumps were more common and easier to use than ever. My HbA1C, a measure of average blood sugar over the previous 60–90 days, was 6.9 percent, reflecting an average blood sugar of about 170 mg/dL (the goal is 6.5 percent or an average of 150 mg/dL). I obtained an insulin pump, a wonderful tool that allowed me to have much closer control of my blood sugar. I met with the dietitian for a new meal plan that included renal (kidney) dietary restrictions. I was overdue for this visit since weight should be checked and weight goals reviewed at least annually. CKD is a change in physical status that requires a dietary review for every person. Although my weight is now normal and many restrictions have been lifted, I go in for regular updates to stay on track.

Continued on next page

A Historical Review of the Medications to Treat Type 2 Diabetes Mellitus

By Michelle Richardson

It used to be that there were only a few oral medications to treat Type 2 diabetes mellitus. However, in the last several years many new medications have become available. Although, this article focuses on oral medications, new injectable medications have also become treatment options.

The sulfonylureas are the oldest class of oral medications used to treat Type 2 diabetes mellitus. Sulfonylureas work primarily by telling the pancreas to release more insulin. There are two groups or types (also called generations) of sulfonylureas. Both work the same way, but the second, newer group (e.g., glyburide, glipizide) offers significant advantages, including fewer negative side effects. As a result, first generation sulfonylureas are not commonly used anymore.

In the mid 1990s, a new class of oral medications, called alpha-glucosidase inhibitors (ex. acarbose and miglitol), became available. These work in the intestines to slow the breakdown of starches and delay the absorption of glucose from the food you eat. One of the largest advances in the treatment of Type 2 diabetes mellitus occurred in the mid 1990s, with the approval of the first medication in the biguanide class: metformin. Metformin lowers blood glucose levels by lowering glucose production in the liver, lowering absorption of glucose through the intestines and making cells more sensitive to insulin.

In the last several years, many new oral medications have become available to treat Type 2 diabetes.

In the mid to late 1990s, the meglitinide class of medications (ex. repaglinide and nateglinide) was approved for the treatment of Type 2 diabetes mellitus. These medications work by telling the pancreas to release more insulin.

Medications in the thiazolidinedione class, also known as the "glitazones" or "TZDs", were approved in the late 1990s. Rosiglitazone and pioglitazone are examples. These medications work by improving sensitivity to insulin in muscle and fat cells in the body. They also decrease new glucose production in the liver.

One of the newest oral medications for treating Type 2 diabetes mellitus is sitagliptin, a dipeptidyl preptidase-4 inhibitor; it works by increasing insulin release from the pancreas and lowering the level of glucagon (a hormone that tells the liver to release stored glucose) in the blood.

The last several years has shown a significant increase in the number of oral treatment options for patients with Type 2 diabetes mellitus. These medications can be used alone or in combination. Your physician considers many factors when deciding which medications to treat you with, including blood glucose level, other medications you are taking, other diseases you may have, etc. Future research will help physicians better understand which combinations provide the greatest treatment benefit.

Michelle M. Richardson, PharmD, FCCP, BCPS, is an Assistant Professor at Tufts University School of Medicine. She also serves on the Special and Scientific Staff of the William B. Schwartz, Division of Nephrology at Tufts–New England Medical Center. She is a member of the KDOQI Diabetes and CKD Guidelines Work Group.

Living Well with Chronic Kidney Disease...

Continued from page 12

I went to see an eye doctor who specialized in retinal problems. This was especially important since nearly 85 percent of people who have both diabetes and CKD also have eye complications. It is important to know that serious changes occur without ever noticing a change in your daily vision. My exam revealed problems and I later had laser treatments that stopped the disease and saved my vision. Today I never miss my yearly eye exam!

I have been lucky. After months of dialysis and a transplant, my life has returned to near-normal. The guidelines I followed during those times are ones I continue to follow today.

Lori Regehr RN, MS, BC-ADM, CDE is a Diabetes Nurse Educator who has had Type 1 diabetes for 33 years. She received a living non-related kidney transplant in 1998.

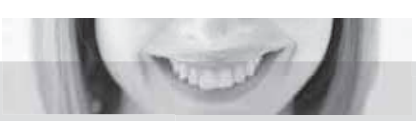
Dialysis Machine

By Linda Andrade
Long Beach, California

Dialysis Machine…you haunt me day and night. I see my sister's blood filter through. This machine that sometimes makes her sick is also her savior. How ironic.

Help my sister, Oh Lord, guide her even through the bad times.

I hold her hand and say relax. She tells me to cheer up and all I can think is how brave and wonderful she is, she is my sister on this chronic machine.



The Warmth of Your Smile

Your smile lit up the Dialysis Room
and took away all the gloom.
Your smile is a very special gift,
and gives all who will see it a lift.
You may never say a word to the
people in the Dialysis Room,
but your smile is very well heard.

If you see someone in doubt
just "smile" and help them out.
With each day you keep smiling,
many friends you will be compiling.

Jimmy
Calhoun, Georgia

The New KDOQI™ Guidelines for Diabetes and Chronic Kidney Disease (CKD)

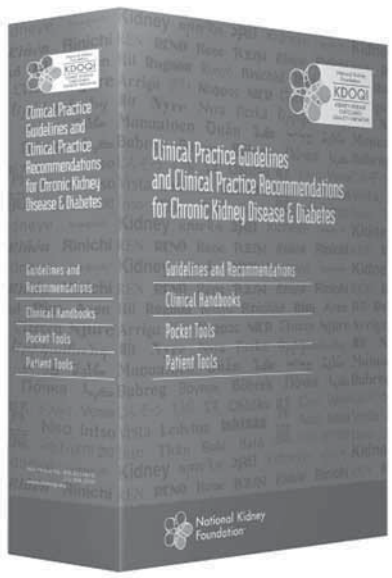
By Katherine R. Tuttle, MD and Robert G. Nelson, MD, PhD

Nearly 21 million Americans have diabetes. Five to 10 percent of them have Type 1 diabetes, which develops because of the body's failure to make insulin. Most others have Type 2 diabetes, which develops because of the body's failure to properly use the insulin it makes.

It is predicted that the number of people with diabetes will increase 165 percent between 2000 and 2050, with the greatest increases occurring in people over 75 years of age and African Americans (1). Children are also increasingly affected by diabetes. Mostly, these increases are due to the alarming rise in obesity rates.

Diabetes is the leading cause of chronic kidney disease (CKD) in the United States. About half of the people who have diabetes (Type 1 and 2) develop kidney disease. Microalbuminuria, or small amounts of the protein albumin in the urine, is an early sign of kidney disease that is found in 43 percent of people with diabetes (2). Macroalbuminuria, or larger amounts of urinary albumin, is a sign of more serious kidney damage and is present in eight percent of individuals who have diabetes (2). Diabetes is also responsible for 45 percent of new kidney failure cases that require dialysis or a kidney transplant, up from 18 percent in 1980 (3). The fact that diabetes and CKD are sometimes not diagnosed early enough means that people may not receive the correct care and may develop CKD at a faster rate.

The new Kidney Disease Outcomes Quality Initiative (KDOQI)™ Clinical Practice Guidelines for Diabetes and CKD were developed to improve the health of people with both diabetes and CKD, by providing ways to diagnose and treat the diseases. The Guidelines were published in February 2007. The Work Group that developed these Guidelines was made up of experts in adult and pediatric kidney disease, experts in adult and pediatric diabetes, experts in adult medicine and cardiology (heart disease), a pharmacologist (expert in the medicines that are used), a nurse and a dietitian. They were assisted by an Evidence Review Team who were experts in the scientific review of medical literature. Evidence, or data, about the Guideline topics came from available medical articles on diabetes and CKD. When there was not enough evidence to meet the criteria for a Clinical Practice Guideline, "Clinical Practice Recommendations" (CPRs) were developed. CPRs reflect new scientific data and expert opinion.



The Guidelines are critical elements for improving care in people with both diabetes and chronic kidney disease.

The Clinical Practice Guidelines for Diabetes and CKD are meant for those with CKD stages 1 to 5, which include individuals on dialysis and transplant recipients (Table 1). However, the Guidelines focus primarily on stages 1 to 4 since evidence in stage 5 is either lacking or has been discussed in other NKF-KDOQI™ Guidelines. The Guidelines are critical elements for improving care in people with diabetes and CKD. They look at diagnosing and managing diabetes and CKD in children, adults, the elderly, pregnant women, and in different racial and ethnic groups. The intended readers are doctors and others who treat people with diabetes and CKD, including, but not limited to, family physicians, internists (experts in adult medicine), nephrologists (kidney doctors), diabetologists (diabetes doctors), cardiologists, nurse practitioners, physician's assistants, pharmacists, nurses, dietitians, diabetes educators and social workers.

Five guideline topics were chosen by the Work Group. The first guideline describes how to screen and diagnose kidney disease in people with diabetes. The other four describe how to treat people with both diabetes and CKD, including how to manage hyperglycemia (high blood sugar) and general diabetes care, hypertension (high blood pressure), dyslipidemia (high blood cholesterol and triglycerides) and nutrition. Four CPRs offer guidance on the management of albuminuria in those who have diabetes without high blood pressure.

These new Guidelines are central to reducing the overwhelming impact of diabetes and CKD. The emphasis on prevention, starting with the prevention of diabetes itself, is the basis for decreasing the burden of diabetes and CKD. Among those who have already developed diabetes and CKD, the advice provided in these Guidelines should lead to optimal care with the goal of maintaining kidney function, reducing complications and improving longevity.

Table 1. Staging of Chronic Kidney Disease.
Adapted with permission from [2].

STAGE	DESCRIPTION	GFR
1	Kidney damage with normal or ↑ GFR	≥ 90 (with CKD risk factors)
2	**Kidney damage with mild or ↓ GFR**	**60-89**
3	Moderate ↓ GFR	30-59
4	**Severe ↓ GFR**	**15-29**
5	Kidney failure	< 15 (or dialysis)

Abbreviations: *GFR, glomerular filtration rate; CKD, chronic kidney disease*

REFERENCES:

1. Boyle JP, et al. Projection of diabetes-burden through 2050. *Diabetes Care 24*: 1936-1940, 2001.
2. National Kidney Foundation. K/DOQI Clinical Practice Guidelines

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for Chronic Kidney Disease: Evaluation, Classification and Stratification. *Am J Kidney Dis 39*:S1-S266, 2002.

3. U.S. Renal Data System, USRDS 2005 Annual Data Report: Atlas of End-Stage Renal Disease in the United States, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, 2005.
4. National Kidney Foundation. K/DOQI Clinical Practice Guidelines on Hypertension and Antihypertensive Agents in Chronic Kidney Disease. *Am J Kidney Dis 43*:S1-S290, 2004.
5. National Kidney Foundation. K/DOQI Clinical Practice Guidelines for Managing Dyslipidemias in Chronic Kidney Disease. *Am J Kidney Dis 41*:S1-S92, 2003.
6. National Kidney Foundation. K/DOQI Clinical Practice Guidelines for Bone Metabolism and Disease in Chronic Kidney Disease. *Am J Kidney Dis 42*:S1-S201, 2003.
7. National Kidney Foundation. K/DOQI Clinical Practice Guidelines for Anemia of Chronic Kidney Disease: update 2000. *Am J Kidney Dis 37*:S182-S238, 2001.
8. National Kidney Foundation. K/DOQI Clinical Practice Guidelines for Nutrition in Chronic Renal Failure. *Am J Kidney Dis 35*: S1-S140, 2000.
9. National Kidney Foundation. K/DOQI Clinical Practice Guidelines for Cardiovascular Disease in Dialysis Patients. *Am J Kidney Dis 45*:S1-S153, 2005.

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Behind Pale Green Eyes

By M.R.P.

As I enter the lobby and see the water jug,
my mouth runs dry longing for a mug.

I stumble through the door and jump on
the scale,
I can only hope my color is not pale.

Some patients laugh and others just cry,
but I know the answer to the question why.

Some patients are hot and others are cold,
others don't listen to what they've been told.

Some patients are wheeled in and others are on
crutches,
some are saved from falling by staff's caring
clutches.

Some watch the tube and others just sleep,
some grimace in pain without making a peep.

Most patients are old but some younger
than me,
I was just thinking what a sad sight to see.

Some patients walk by needing a hand,
Oh, to be on vacation with my feet in the sand.

A patient's hands are clasped as if saying
a prayer,
her confusing chatter makes me stare.

Staff put in long hours and the coffee is flowing,
I now see why my appreciation is growing.

My life's in their hands I must agree,
I cannot give thanks enough, their effect on me.

The one that is energetic, funny and bold,
opens my mind to the stories untold.

Jokes are aplenty during the late shift,
my bad thoughts disappear, what a perfect gift.

A tech is leaving which saddens me,
but she's moving on to bigger things I'm glad
to see.

The alarm sounds, the bicarb is low,
the tech runs to the back to keep up the flow.

Today I came in early, I'll be done before dark,
a timely meal awaits, thus my stomach will
not bark.

As I look out the window and see the rain,
I often wonder if I'll feel any pain.

The needles are big, I could slurp a cold drink,
if there's a bad stick, my confidence may shrink.

Staff insert the straws with a surgeon's precision,
one reason why this is not a bad vision.

The crimson river runs quickly away,
until it comes back, I'm here to stay.

The tape is real sticky and tears out my hair,
but when all is done, I do not care.

As I listen to Zeppelin and the stairway
is bought,
I wonder if my dreams can still be caught.

The doctors show up, it's time for the third
degree,
I can only hope they have good news for me.

As she delivers the labs and says status quo,
I'm reminded of her reports from more than a
decade ago.

The machine hums along with no end in sight,
I've grown numb to the sound and to the fright.

Machines often break but they'll be repaired,
my thoughts of a cure will never be spared.

Two patients fight, what a racket it makes,
but my treatment is over for goodness sakes.

The scarring of my arm appears unsightly,
but the good arm stops the blood as I clamp
down tightly.

As time goes by the clock ticks away,
my thoughts of good memories will never fray.

The exit glows red, I can find my way out,
I'll be back the next time, no need to shout.

THE FIRST DAY OF THE REST OF YOUR LIFE

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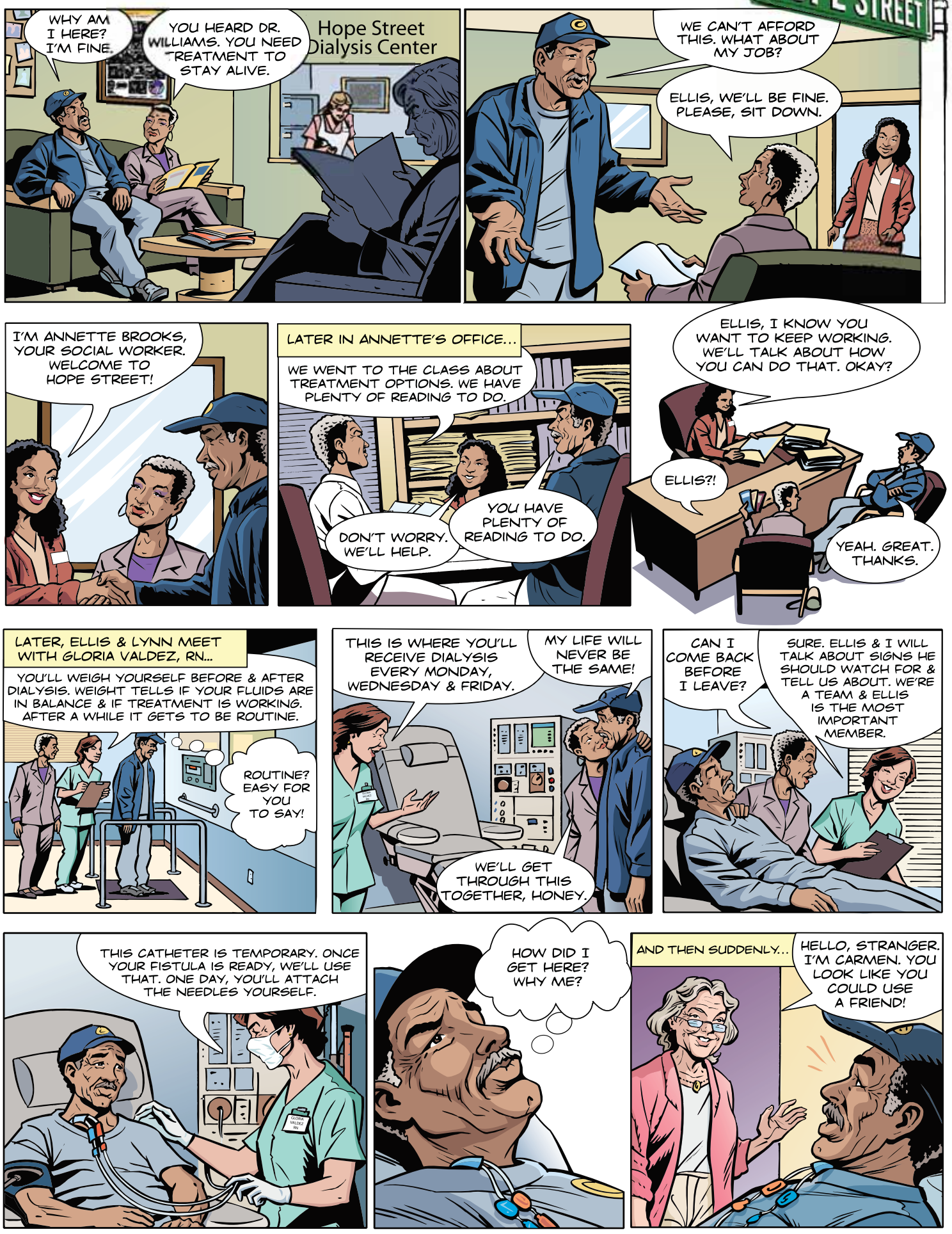

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