Pulmonary Rehabilitation for lung transplant patients

New lives from new lungs

By Heather Grant, MS

The Pulmonary Rehabilitation program at the University of Wisconsin Hospital and Clinics is privileged to work with a special group of patients—those waiting for lung transplants, and those who have received the precious gift of a new lung. In 2004, UWHC did 25 lung transplantation surgeries. This year, 32 lung transplants have been performed to date, twenty of which were single lung transplants and twelve of which were double lung transplants. Though many of these patients attend rehab close to home, there have been twelve participants in the UW Pulmonary Rehab program this past year, five of whom have been followed both before and after their surgery. Three pulmonary rehab participants are still waiting for lungs, and there are several who have received transplants in prior years who still attend maintenance classes.

Patients receiving a single or bilateral lung transplant are typically between the ages of 20-65 years. They have various forms of end-stage pulmonary disease such as cystic fibrosis, emphysema, or pulmonary hypertension, to name a few. As with other organ transplants, the pre-surgery evaluation is extensive, and close contact with the transplant team is important. Pulmonary rehabilitation is a key part of the pre-transplant phase. During rehab, patients try to improve their fitness levels, work on dietary issues (many patients are under weight because of the high energy demands of breathing), learn respiratory self-management skills, and assess ongoing supplemental oxygen needs. The goals for this population are often no different that for the average pulmonary rehab patient; pre-transplant patients are usually just sicker individuals.

Many pre-transplant patients value the social contact that rehab offers. Tricia (names in this story are used with permission), is a young, 29 year old woman with cystic fibrosis awaiting a lung transplant. Cystic fibrosis has caused Tricia’s lungs to fill up with thick mucus (Continued on page 2)

Vascular screenings

Taking a peek at problem plumbing

By Nancy Bell, RN, RVT

Want to know more about your heart and blood vessel health? You may think about getting screened. But how do you know if you need one, and where do you go to get the best screening?

These accurate, quick and painless tests can provide vital information, potentially alerting you and your physician to life-threatening conditions. However, Medicare and most insurance companies do not cover the cost of the screening exams. You can pay cash for the tests at various sites, and many hospitals and clinics offer free screenings throughout the year on a first-come, first-serve basis.

Four national organizations—the Society of Vascular Surgery, Society for Vascular Medicine and Biology, the American Vascular Association and the U.S. Preventive Services Task Force—all agree that screenings can be a good thing if they are 1) performed by qualified medical personnel; 2) read by physicians who are professionally trained in this area, and 3) offered at an accredited site that performs
lung damage. “I can feel very isolated from my age group due to my disease,” she says. “Rehab helps me feel like I’m part of a group. It is also a good way to share information about new therapies, new treatments, and experiences (both good and bad) with doctors.”

Many patients also value the chance to keep up their health and fitness before lung transplantation by attending pulmonary rehab. Ben, a 49-year-old former drummer with sarcoidosis, a disease that causes scarring in the lungs, has been on the transplant list for a long 22 months. “Each illness slows you down. Being in the program helps rebuild strength and endurance.”

A lung transplant is a major, life-saving surgery. If a patient is fortunate enough to get a new lung, they go straight back to pulmonary rehab after their surgery. The goals for pulmonary rehab after surgery are similar to the pre-surgery goals, with a few exceptions. There is greater emphasis on building muscle strength to combat the muscle wasting and weakness that are associated with the anti-rejection medications. There is also a much greater focus on preventing infections, as the post-transplant person is at greater risk of getting bad bugs because of their lowered immunity.

Patients recover from surgery and find that their lives have changed and that often it’s the little things that are the most important. Gail is a lively, 55-year-old woman who received a right lung transplant in 1996. Unfortunately, her body kept trying to reject the new lung, and ultimately, she received a left lung transplant this year. Gail explains, “Since my transplant my life has changed tremendously. I’m no longer tethered to an oxygen tube or tied to a BiPAP machine [an oxygen delivery system used while sleeping]. I used to feel like a dog and now I’m a butterfly. I’m free to do what I want. People are amazed I can now dance at church—something I used to dream and write about. I can clean my house, go shopping, and use the wheelchair less and less every day. Life is wonderful!”

Gail’s new mantra: “I’m 55 and still alive.”

Hoping for the future and being positive, Tricia adds, “I can’t wait to get rid of the oxygen and tubing. I’m excited to be ‘cough-free’ at home and in public, and, hopefully, no more hemoptysis (blood in the sputum) to scare me. I feel that rehab has me in the best physical shape possible for my upcoming transplant.”

Working with patients through their transplant experiences is very rewarding. We are privileged to be a part of the process as they regain their lives, and in many cases, do things that may have once been only a dream.”

PC influence beyond Madison area

The staff of the Preventive Cardiology Program are active in more than just the daily care of patients. Their expertise in heart care, lipid management and rehabilitation is shared with professionals locally and nationally. Here are just a few of the activities and committees in which our clinic physicians are involved:

Dr. Edwin Ferguson: American Association for Cardiovascular and Pulmonary Rehabilitation (AACVPR) Scientific Advisory Council; Co-chair, AACVPR 2006 National Convention Planning Committee. Editor, AACVPR Medical Directors Newsletter.

Dr. Jon Keevil: Co-chair, Great Lakes Regional Working Group, Emerging Science of Lipid Management (ESLM); Member, American College of Cardiology (ACC) 2006 Annual Convention Planning Committee.

Dr. James Stein: Co-chair, 2006 Scientific Sessions, ACC; Member, Task Force on Echocardiography in Clinical Trials, American Society of Echocardiography; Representative, National Heart Lung Blood Institute National Cholesterol Education Program; Member of the National Institutes of Health/National Institute of Allergy and Infectious Diseases Research Advisory Committee.
regular quality assurance. (A simple phone call to the screening site can help you know whether these criteria are being met.)

The four groups established common guidelines for those who would benefit most from cardiovascular screenings. (See sidebar.) In addition, patients with any form of arterial disease or family history of abdominal aortic aneurysm or stroke are at the highest risk for cardiac and vascular disease. A thorough vascular screening is most beneficial for these patients.

The three most popular vascular screenings detect abnormalities in the carotid artery, the peripheral arterial system, and enlargements of the abdominal aortic artery.

Blockages, or “plaques”, in the carotid arteries can impair the blood flow to the brain, leading to stroke. An ultrasound test can quickly and painlessly detect any plaques within these vessels. An ultrasound probe and gel are placed on the neck vessels and images are obtained instantly. A formal carotid ultrasound is usually recommended if abnormalities are found during the screening.

Peripheral arterial disease screening is done with blood pressure cuffs placed around the arms and ankles. A small ultrasound probe is place over the artery and pressures are measured at each cuff. If the pressure is less in the legs as compared to the arms, there may be blockages within the peripheral arterial system and an increased chance of coronary artery disease.

An abdominal aortic aneurysm screen is performed with an ultrasound probe placed on the abdomen to visualize the aorta. Images and measurements of the aortic artery are recorded, and the technologist and physician will instantly know if these measurements are larger than the normal parameters. Further formal testing will be recommended if the test is positive for an aneurysm. Because aneurysms are usually painless until they become very large, most people with an aneurysm have no symptoms. If an abdominal aortic aneurysm ruptures it usually is fatal.

The Society of Vascular Ultrasound has stated concern that there is a lack of standardization with screening exams. Concern is primarily with the qualifications of the technologist doing the screening, the physician interpreting the exam and where screenings are performed. The Society of Vascular Ultrasound recommends that exams be performed only by physicians or professionals certified in the area of testing being performed. These professionals should have the experience to assure an accurate examination.

Screening should be performed in an accredited facility, lab or hospital. For more information and questions you should ask before deciding which screening and which location is right for you, you may find the web site, svuinfo@svunet.org, helpful.

Preventive screening ultrasounds may identify limb and life-threatening problems before they become medical emergencies or lead to debilitating conditions. If you would like more information on these screenings, please call us at (608) 263-7420.

Celebrate National Heart Month

February is National Heart Month, a time when we celebrate with our current and former patients all those victories, big and small, that you experience in your personal battle over heart and vascular disease. University of Wisconsin Hospital and Clinics and the Preventive Cardiology Program, in conjunction with the American Heart Association, will be providing a number of “events” with heart health and heart care as the themes. More details will be forthcoming as the month approaches, but here is just a brief list of some of the events being planned:

- Heart Telethon on WKOW-TV, Channel 27.
- Cardiac Rehab Week and “Heart-To-Heart Walk”, Feb 14 and 15.

Call our office at 608.263.7420 for more details as February nears.
Ginger Spice Biscotti

There’s nothing like a piece of healthy biscotti to brighten up those dreary winter mornings. Try this treat on your friends and family!

Pan spray
1 1/4 cups unbleached, all-purpose flour
1 cup whole-wheat flour or whole-wheat pastry flour
4 tsp. ground ginger
1 tsp. cinnamon
1 1/2 tsp. baking powder
1/4 tsp. allspice
1/4 tsp. salt
2 large eggs
1/2 cup packed dark brown sugar
1/2 cup unsweetened apple butter or applesauce
1/2 cup dried cranberries, chopped dried pineapple or other dried fruit

Preheat oven to 325 degrees. Spray large cookie sheet with pan spray and set aside.

In medium bowl, mix next 7 ingredients and set aside. Using electric mixer mix eggs with canola oil and apple butter for about 15 to 20 seconds. Add sugar and blend for 30 more seconds. Add half of dry mixture and process until smooth. Add remaining dry mixture and process until you get a soft and sticky dough forms. Transfer dough to a large bowl; fold in dried fruit. Divide dough in half and place on either end of cookie sheet.

With damp hands, form each piece of dough into a log 3 inches wide and about 3/4-inch high. Bake 25-30 minutes, or until firm to the touch. Logs will spread during baking. Remove from oven and cool 10 minutes. With serrated knife, slice each log into 1/2-inch cookies, cutting on a diagonal. Bake 10 minutes.

Turn each cookie over and bake 10 more minutes. Turn oven off and leave biscotti in oven for 10 minutes. Remove from oven and cool on wire rack. Store at room temperature. Makes 40 cookies.

Nutrition information for 1 cookie:
60 calories, 2 g total fat (<1 g saturated fat), 20 g carbohydrates, 1 g protein, <1 g fiber, 36 mg sodium.