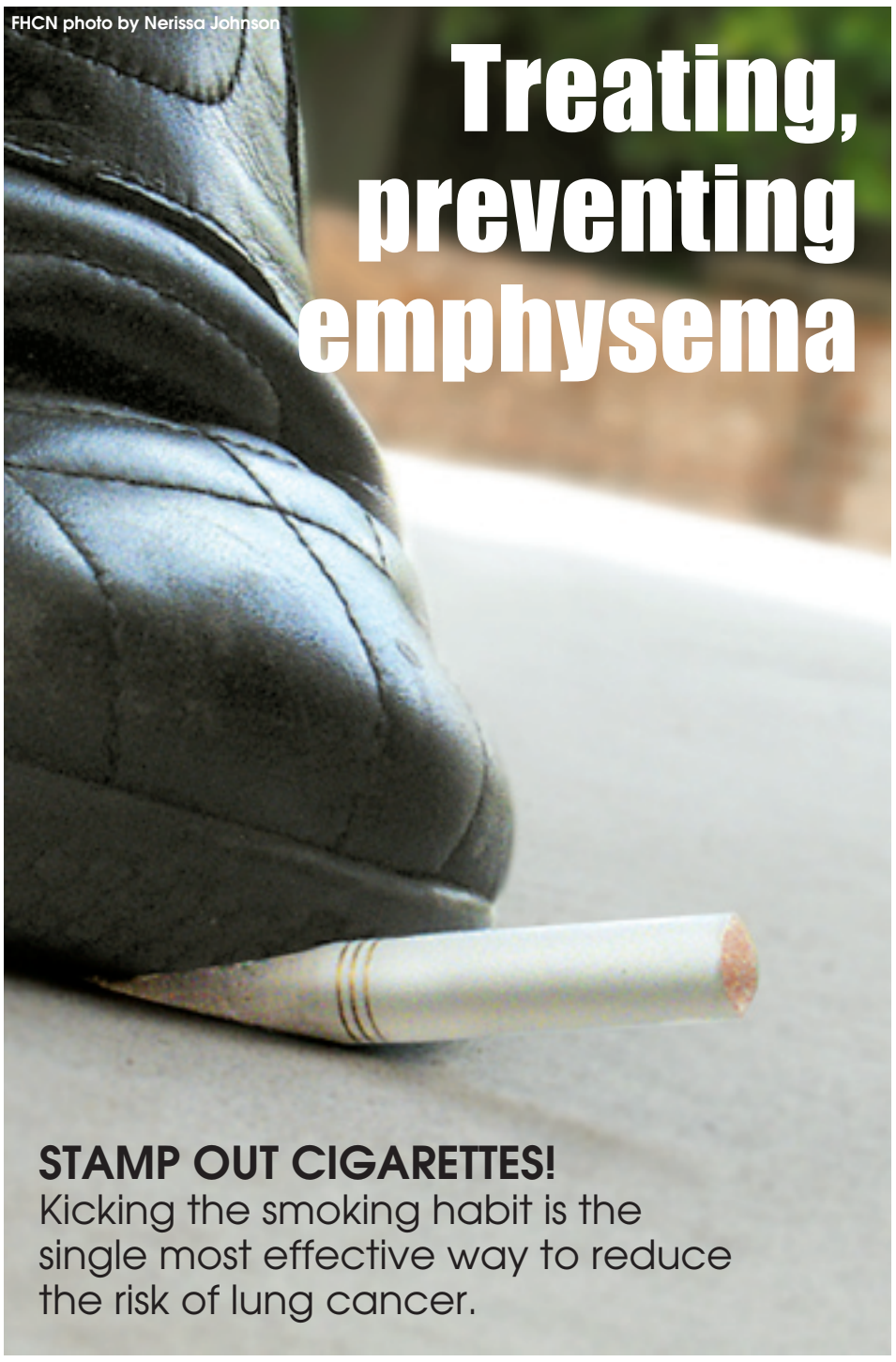
FHCN photo by Nerissa Johnson

Treating, preventing emphysema

STAMP OUT CIGARETTES!
Kicking the smoking habit is the single most effective way to reduce the risk of lung cancer.

The National Emphysema Foundation reports that the chronic pulmonary disorder emphysema is the fourth leading cause of death in the United States, and its numbers are climbing.

Currently, between 16 million and 30 million U.S. citizens are living with emphysema, and it claims the lives of approximately 100,000 sufferers every year.

Karen M. Stroh, MD, is board certified in internal medicine and pulmonary medicine, and she explains that emphysema is a pathological lung condition that renders the air spaces inside the lungs inflexible.

"In healthy lungs, the air spaces inflate when we inhale, and deflate as we exhale," she describes.

"When someone develops emphysema, these air spaces fail to deflate completely, and the stale air that remains trapped inside them interferes with the exchange of carbon dioxide and oxygen in the blood stream. Left untreated, a toxic condition called acidosis can develop, and patients who develop emphysema experience symptoms including labored breathing, coughing, fatigue, and an increased susceptibility to infection."

Manatee Memorial Hospital
Karen M. Stroh, MD

Emphysema develops slowly, and the condition usually is not diagnosed until a patient experiences symptoms, most often at 45 to 50 years of age. By the time they experience symptoms, most patients have lost half of their lung function, and their condition continues to deteriorate.

Risk factors

The vast majority of cases of emphysema can be traced to a single risk factor: cigarette smoking. A rare hereditary condition, Alpha 1 Antitrypsin deficiency, is responsible for a small number of cases, usually among younger patients, but Dr. Stroh emphasizes that cigarette smoking is directly linked to between 80 and 90% of all cases of emphysema.

"Anyone who wants to reduce the risk of developing emphysema has a clear-cut choice," Dr. Stroh points out. "If you don't smoke, don't start. If you do smoke, quit. Anyone who has watched someone succumb to emphysema doesn't need to be told about the painful, prolonged suffering this disease causes."

Dr. Stroh acknowledges that this warning is easy for patients to ignore. "In its earliest stages, emphysema will not cause symptoms, even among heavy smokers," she explains. "Patients in their early 20s who smoke heavily may feel they have plenty of time to quit later, but as long as someone continues to smoke, he or she is actively damaging the lungs, losing lung function every year.

"We lose function through the simple process of aging, starting at about age 35," Dr. Stroh adds, "but smokers lose it earlier and more rapidly than nonsmokers."

Karen M. Stroh, MD, is board certified in internal medicine and pulmonary medicine. She completed her undergraduate studies at Youngstown State University, OH, and earned her medical degree at Northeastern Ohio Universities College of Medicine. She served her residency in internal medicine at Western Reserve Care System, Youngstown, and is fellowship trained in pulmonary critical care medicine through University of Florida/Shands, Gainesville.

What happens?

Dr. Stroh says it is easy to understand exactly how cigarette smoking causes the damage that leads to emphysema.

"I liken the airways in the lungs to a fresh rubber band," she offers. "When you stretch a rubber band (inhale) and let go (exhale), it springs back to its original shape. But if the rubber band becomes dry and brittle, it will not return to its normal shape after being stretched. It will stay stretched and loose.

"That is what cigarette smoke does to the lungs: Its heat and chemical composition steal the air spaces' elasticity, leaving the lungs' airways stretched."

As emphysema advances, patients may develop a barrel-chested appearance as their ability to fully exhale declines. Patients often complain that exercise becomes difficult, and the tips of their fingers and toes may appear blue from lack of oxygen. They may notice swelling in their feet, which is indicative of right-side heart failure. People with end-stage emphysema may be noticeably underweight, because the simple of act of drawing breath uses so much energy that patients burn more calories than they consume.

Although there is no way to reverse the damage done to the lungs once emphysema develops, Dr. Stroh notes that treatments are available to help alleviate symptoms and to prolong patient comfort.

Finding relief

Dr. Stroh points out that the pulmonary rehabilitation program at Manatee Memorial Hospital can help patients with emphysema to manage their symptoms.

"Pulmonary rehab is primarily exercise," she informs. "The public is already aware of the success of cardiac rehabilitation programs to increase heart function; we need to improve awareness of the effectiveness of pulmonary rehab as well."

In pulmonary rehab, patients participate in a prescribed regimen three times a week for six to eight weeks, working with respiratory therapists who teach techniques to increase the amount of air that can be exhaled. Patients can be helped to empty their lungs of stale air with simple techniques like pursed-lip breathing. The patient inhales through the nose and then uses a slow, controlled exhalation through pursed lips that lasts twice as long as the inhalation.

Pulmonary rehab also uses physical therapists to help patients build their tolerance for exercise.

"Exercise does not necessarily improve lung function," Dr. Stroh clarifies, "but it helps strengthen muscles so they work more efficiently without inducing shortness of breath. Conditioned muscles don't require as much oxygen as deconditioned muscles, so more oxygen is available to other tissues. Patients feel better thanks to pulmonary rehabilitation."

A vast array of medications is available to treat the symptoms of emphysema, depending on the severity of the symptoms and the stage of the disease.

An inhaler can help optimize the oxygen that reaches the bloodstream, and pure oxygen can be prescribed for a patient with severe lung disease whose oxygen levels are impaired.

Lung reduction surgery is an option for carefully selected patients whose lung damage is contained within the upper part of the lungs. Removing the damaged portion of the lung allows the remaining, normal lung tissue to expand and contract more normally.

Another surgical option is a full lung transplant, a treatment reserved for the most severe cases of lung disease.

"These approaches don't cure emphysema," reminds Dr. Stroh, "but they help relieve the symptoms and increase the patient's comfort level.

"What people need to remember is that emphysema can be prevented," she emphasizes. "The way to prevent it is to avoid smoking." **FHCN**–*Billie S. Noakes*

Healthy partnership

You … and Manatee Memorial Hospital. The hospital offers a number of programs to help educate the public about maintaining or regaining health. For information about health issues, please visit ***www.manateememorial.com,*** *or call the marketing department at* ***(941) 745-7204.*** *Manatee Memorial Hospital is located at* ***206 2nd St. East*** *in Bradenton.*

If you would like additional information about emphysema and other chronic obstructive pulmonary diseases, Dr. Stroh encourages you to visit these websites:

www.emphysemafoundation.org
www.nef-world.org
www.nef-usa.org