the surgeon stands between the doughnuts, watching a video monitor displaying the MRI images—which can be updated as quickly as twice per second.

Because the image is configured to allow the surgeon access to the patient, the field strength is less than a regular diagnostic MRI—0.5 versus 1.5 Tesla—so the resulting image quality is inferior. However, the near-real-time preoperative CT or MRI scans are still required to familiarize oneself with the anatomy and look for subtle lesions, Dr. Sewell said.

The intra-operative MRI is used to localize the kidney, then plan and monitor the path of the needle. In a couple of minutes, the surgeon inserts it through a 4 mm incision into the centre of the tumour.

The probe—called Cryo-Hit and designed by Tel Aviv-based Galli Ltd—is non-magnetic, so it doesn’t interfere with MR imaging.

Dr. Sewell uses three cycles of freezing and thawing to rupture the tumour cell membranes.

Pressurized argon gas is used for freezing, producing a temperature of -186 °C at the tip of the probe, creating an “ice ball” whose growth can be monitored on the video screen.

Pressurized helium gas then heats the tissue to up to 80 °C.

“The MRI allows me to see where the probe tip is and move around and get three-dimensional quality. In contrast, Dr. Sewell, it’s just like slicing through the body. It’s a virtual surgery, essentially.”

In one hour, the tumour is a shrunk mass of inert cellular debris and the patient goes home the next day.

“You just put a Band-Aid on them and we’re done” for months, you can’t even find the scar—it’s so small,” said Dr. Sewell. Ordinary naked-eye surgery, he added, involves a 10-inch incision, removal of surrounding tissue and weeks of recovery time.

The technology, said Dr. Sewell, could one day replace nephrectomy, if it has the same end result.

“If you’re faced with having your kidney removed and going on dialysis because you have a tumour, this is certainly of great benefit.”

[From the Mississippi Medical News, Nov. 1999]

UMC PHYSICIANS PERFORM NEW LUNG CANCER SURGERY IN CHINA

Two physicians from the University of Mississippi Medical Center (UMC) have been in China treating its overwhelming number of lung cancer patients—and teaching China’s doctors to do the same. If this medical undertaking is successful, it could change the way lung cancer surgery is performed worldwide.

The UMC physicians used a new surgical procedure which was performed for the first time in the world at UMC and, since then, has been adopted at the Jackson Medical Center for the past six months.

Surgeon/radiologist Dr. Patrick Sewell and oncologist Dr. Ralph Vance taught China’s physicians how to perform the new surgery to battle lung cancer. In the process, the UMC physicians are conducting the study of a newly created lung cancer patient’s in the United States and worldwide.

“China has 300 million smokers, which is more than the entire population of the United States,” says Sewell, an assistant professor of radiology at UMC. “So they need a cost-effective way to treat lung cancer. This is a fast and cheap way to destroy tumours in the body.”

Sewell pioneered the new surgical procedure, called a radiofrequency of the lung ablation, at UMC. He is considered the world’s authority on the procedure. Vance, a UMC professor of medicine, is designing and directing the related study and its joint research by UMC and recognized institutions in the People’s Republic of China.

Sewell visited three cities—Beijing, Xian, and Shanghai—to lecture, demonstrate, and perform the surgery. He went to China Oct. 4 and returned Oct. 17. Vance set up the patients and the study in advance, visiting China Oct. 1-3. Vance also is technically known for developing new surgical procedures using UMC’s intra-operative magnetic resonance imaging (MRI).

The procedure very closely resembles the Chinese procedure. (UMC is one of three test sites in the United States for the vertical twin-magnet interventional MRI which is an outside research project, about a four-year joint venture of hospitals of Harvard and Stanford Universities.)

The intervention MI displays magnetic resonance images in real-time during surgery, so the physician can see a surgery’s progress and whether tumors are being destroyed. The China radiofrequency tumor ablation surgeries, in which a hot probe is used for tumor removal, employ an interventional CAT scanner instead of the intervention MRI.

In both procedures, a tiny incision in the patient’s skin enables the physician to insert a probe into the body to destroy the tumors. In the pioneering interventional MRI procedures, a cold Cryohit (freezing) probe most often is inserted. Dr. Sewell notes that, in the United States at UMC, the procedure only has been used to treat metastasized tumors of the lung that have spread to other parts of the body as a means to prolong life and relieve suffering from incurable cancer.

Since conventional surgery can successfully remove primary tumors of the lung, Sewell can point to no compelling reason in the United States to institute the CAT scanner procedure also as a cure. He says he is not willing to let a patient forgo conventional surgery here to test the results of the new procedure. Dr. Vance notes that, in China, when medical resources are insufficient to treat the overwhelming number of lung cancer patients through conventional means, this new procedure could be a viable means to turn the tide against lung cancer.

Vance explains that only 15% of China’s population with lung carcinoma undergoes conventional surgery for tumor removal.

If indeed the CAT scanner procedure works on primary tumors in China, it could be adopted in the United States and worldwide. Since conventional lung cancer surgery is more expensive and quicker than conventional surgery, but the patient also has much shorter recovery period after interventional-type surgeries; they also involve less trauma to the body, Sewell explains.

Sewell performed 10 radiofrequency ablation surgeries on patients in China, while training surgeons there. The 10 surgeries involved five primary lung tumors, three metastasized tumors, and one cancer of the liver “so they’d know how to do that procedure, too,” Sewell reports.

Vance served as an epidemiological expert on the China trip. He selected lung cancer patients in China to receive the surgery and set up parameters for studying the medical outcomes.

After being trained by Sewell, China’s surgeons immediately began performing the new lung cancer surgeries on both primary and metastasized tumors. “They could even perform hundreds of those lung surgeries per month,” Sewell estimates. We’ll know whether they’ve succeeded in the coming months once they have returned to China, he says.

That’s part of phase II of the China project. In four to six weeks, Vance will choose more patients in China to have primary tumors of the lung removed and Sewell will perform the surgeries. He went to China Oct. 4 and returned Oct. 17. Vance set up the patients and the study in advance, visiting China Oct. 1-3. Vance also is technically known for developing new surgical procedures using UMC’s intra-operative magnetic resonance imaging (MRI).

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TRIBUTE TO BRANDI NICHOLE GASKEY

HON. JOHN J. DUNCAN, JR.
OF TENNESSEE
IN THE HOUSE OF REPRESENTATIVES
Thursday, November 18, 1999

Mr. DUNCAN. Mr. Speaker, one of the best students in my district, Brandi Nichole Gaskey, has just graduated from Farragut High School. She has had an amazing four years in high school. She was a member of the National Honor Society all four years, and she was also President of the Fellowship of Christian Athletes her junior and senior year.

Brandi was also involved in sports at Farragut and was voted most athletic, as well.

Mr. Speaker, recently Brandi Gaskey was asked to give the commencement address at Farragut High School. I have attached a copy of her remarks that I would like to call to the attention of my colleagues and other readers of the RECORD.

HOPE THROUGH CHARACTER 1999 Graduation Address
(By Brandi Nichole Gaskey)

Mr. Superintendent, friends, family, distinguishing guests, and fellow graduates of the last class of the century, I stand before you tonight filled with excitement as I welcome you to the 1999 Farragut High School Graduation Ceremony. As we have come to the end of our formal education, to for some of us a miraculous occasion, the question was asked "Does character count?"

Although I could not think of one word to define character, I respond with an enthusiastic YES, character does count. I counts for you and me and every person we will ever come across. It counts in a big way through the small things we do or say every day.

Character is who you are in the dark, when no one is looking. It's what's on the inside, the stuff you reveal of how you may not know about, but one day every one will see. My pastor, Doug Sager, once said, "your character is your set of values that are non negotiable. It's the quality of life given to you by God to say what is right and to stand up for it."

For you see, your character can either make you or break you because everyone has choices. You are just a matter of how you choose to develop it. For example, two students at Columbine High School had the character to kill their fellow classmates, while another student at Columbine High School had the character to stand up for their faith no matter what the cost. So I'd like to share with you today how to develop your character, and exactly why it does count. Moris Mandel tells a story of how the forming of our character is like the forming of an icicle. When an icicle forms one drop at a time until it is about one foot or two long. If the water was clear, the icicle remains clear and sparkles like dia- mond. However, when the icicle begins to melt, its looks foul and its beauty is spoiled. Just so, our characters are forming one little thought at a time, one little action at a time. In the Bible, in Romans 5:1-4 it states, "Trials make perseverance, perseverance our character, and that character produces hope." Hope for the one who keeps on trying and trying again and no one knows how bad they've hurt or hard they've worked. It's studying so hard for an AP Latin test, a math final, or an English exam to realize you make a D, so the next time you study so much harder and finally make the A. Character is all these things. It is formed when you realize you're at your lowest, but hey, you gotta keep on going. So I'd like to challenge you class of 1999 to see each trial you will face as an opportunity to prove and reveal your character. All of these things will 'strengthen your soul, clear your vision, inspire your ambition, and develop your character.' (Helen Keller) Just like the Bible says, your character produces hope. Hope through God that we will make a difference, hope that we are going to be the best future leaders, parents, teachers, ministers, and merchants in the history of our nation, hope that we do matters, and hope that our character will count in forming a better tomorrow. So be the people of character you are called to be and work daily on strengthening your soul and developing your inner spirit. Margaret Ibsen once said, "one cannot be empty of the important of your true heart and true character." She said, "I think 't would be lovely to live and do good, to grow up to be the girl that I should. A heart full of sunshine and a life full of grace are beauty far better than beauty of face. I think 't would be lovely to make people glad, to cheer up the lonely, discour-aged, and said. What matters if homely or pleasant to see, if lovely in spirit I'm striving to be." So you see your character can make a difference in the lives of others. It's not just what you do but how you do it. This spirit, it's what you've developed these last 17 or 18 years, what you've persevered through at home and at school, it's your character that is Columbine High School is essential. So let God guide you through your trials you will face in college, your career, your marriage, and as a parent, and let those "trials make perseverance, perseverance your character, and that character produce in you hope" (Romans 5:3-4). So I'd like to congratulate you class of 1999. We made it and we finished the ride successfully, but I'd like to leave you with the words of Abraham Lincoln. He said, "Peace is a vapor, popularity an accident, wealth and splendor are transient. Only good purpose endures forever and that is your character." Thank you.