

Scanner adds speed, accuracy

LUH upgrades equipment

By Pam Mellskog
Longmont Times-Call

LONGMONT — Comparing the human body to a loaf of bread fails to describe the power of Longmont United Hospital's new computerized tomography scanner.

But it works to help average Joe and Jane patients better appreciate why the hospital in August invested more than a million bucks to buy the scanner and remodel the room housing it.

"When the CT was first developed (in the 1970s), you would slice the loaf of bread and look at one slice at a time," LUH Imaging Director, Sherri Vasko-Steinbeck, said. "Now, you can vary the thickness of the slice of bread. You can put it back together, and view it from all angles."

LUH recently retired its 4-slice scanner for a 16-slice scanner and introduced a Siemens 64-Slice Computed Tomography Scanner to scan the kind of X-rays that produce detailed images of organs, bones, soft tissues and blood vessels.

The scanner upgrade allows doctors to probe for disease and trauma with unprecedented speed and accuracy.

For instance, the earliest total body CT scans took 45 minutes or more. Technologists spent another 30 minutes processing those images before manually hanging them on a light board for physician review.

The new scanner takes a more detailed total body scan in about 60 seconds and delivers those images to a computer screen for immediate analysis.

"In a life or death situation, you don't have that half-hour delay. Within seconds, the doctor can proceed with treatment, which can save someone's life," Vasko-Steinbeck said.

In terms of accuracy, early CT scanners could find a grapefruit-sized mass. This one can locate something the size of the ball tip in a ball point pen, she said.

LUH spokeswoman Karen Logan compared old and new scanners to tourists looking for a house with a conventional map versus global positioning system technology.

"The early scanners might find the address (of the disease, tumor or trauma). This scanner can find the pumpkin sitting on the porch," she said.

One way LUH uses the new scanner is as a noninvasive heart screening alternative to the coronary angiography that debuted in the 1950s.

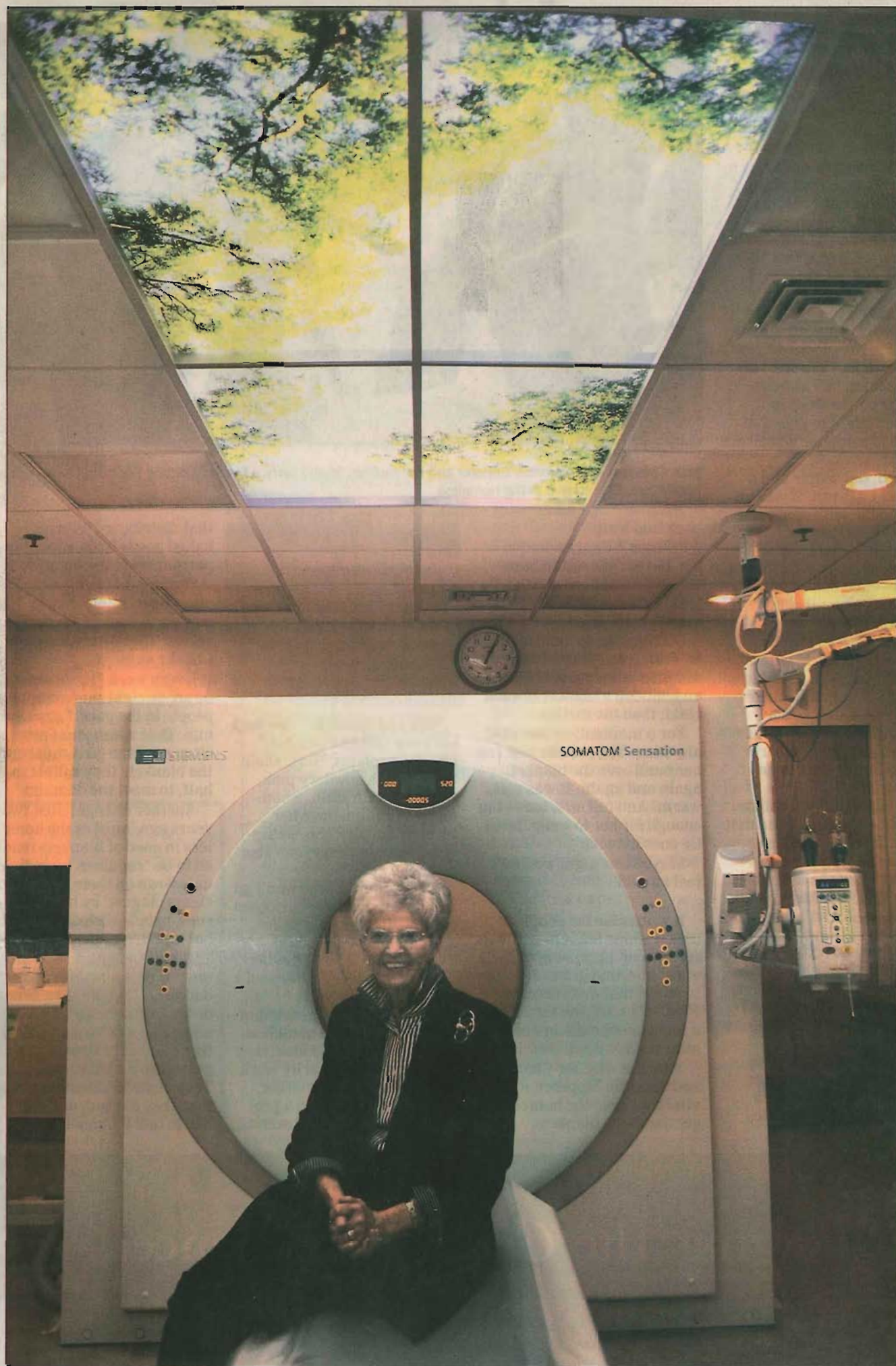
That invasive and expensive procedure required patients to undergo local anesthesia. Then, the doctor threaded a tiny hollow tube through an opening in the patient's arm or groin to inject a contrast dye into the coronary artery.

X-rays of how the contrast dye moved through the heart for about 20 to 30 minutes helped diagnose heart disease and determine the nature and extent of blockages due to fatty buildup.

The 16-slice CT scanner introduced the non-invasive alternative. However, patients needed to take medication to slow their resting heartbeat to between 50 and 60 beats per minute. The slower beat gave the scanner more time to capture images of the heart resting and beating.

The typical resting heart rate for adults hits between 60 and 100 beats per minute, according to the National Institutes of Health.

Though the 64-slice CT scanner scans more quickly, doctors still pre-



Jill R. Mott/Times-Call

Longmont United Hospital recently purchased a very powerful 64-slice computed tomography scanner to diagnose and identify tumors, blocked carotid arteries and more. Elaine Jensen drove from Kansas to take advantage of the scanner earlier this year.

scribe these medications to get the highest quality images possible, Vasko-Steinbeck said.

LUH maintains a suite of diagnostic imaging equipment, and some pieces remain the gold standard for detecting specific cancers.

For instance, because of breast tissue density, staff prefer digital mammogram images to screen for breast cancer, LUH CT supervisor Maureen Foote said.

Yet, the new CT scanner delivers reliably true images beyond the heart.

Elaine Jensen travelled 200-plus miles to Longmont from her home in St. Francis, Kan., this fall to try the new scanner for the first time.

Though not a heart patient, her doctor prescribed the new scanner every

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six months to monitor her bacterial lung infection.

The infection caused her to lose her appetite, feel exhausted and suffer a hacking cough.

"I'm a big Kansas farm woman. I'm 5 feet 9 inches tall and weigh 150 pounds. But I got down to 117 pounds," Jensen, 76, said. "I really thought I was dying."

Three powerful antibiotics put the tuberculosis-like infection in remis-

sion.

But biannual 64-slice CT scans help her doctor "see" signs of infection and preempt future bouts, she said.

Jensen, self-described as slightly claustrophobic, considers the new scanner user-friendly.

Patients lie on a table that quietly moves through a large, doughnut-shaped opening. During the scan, she lifts her arms and holds her breath as the technologist intravenously injects contrast dye.

"You know, you're a little anxious. ... But it seemed like I was in and out," she said. "It took me longer to undress and get ready than to go through the actual procedure."

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