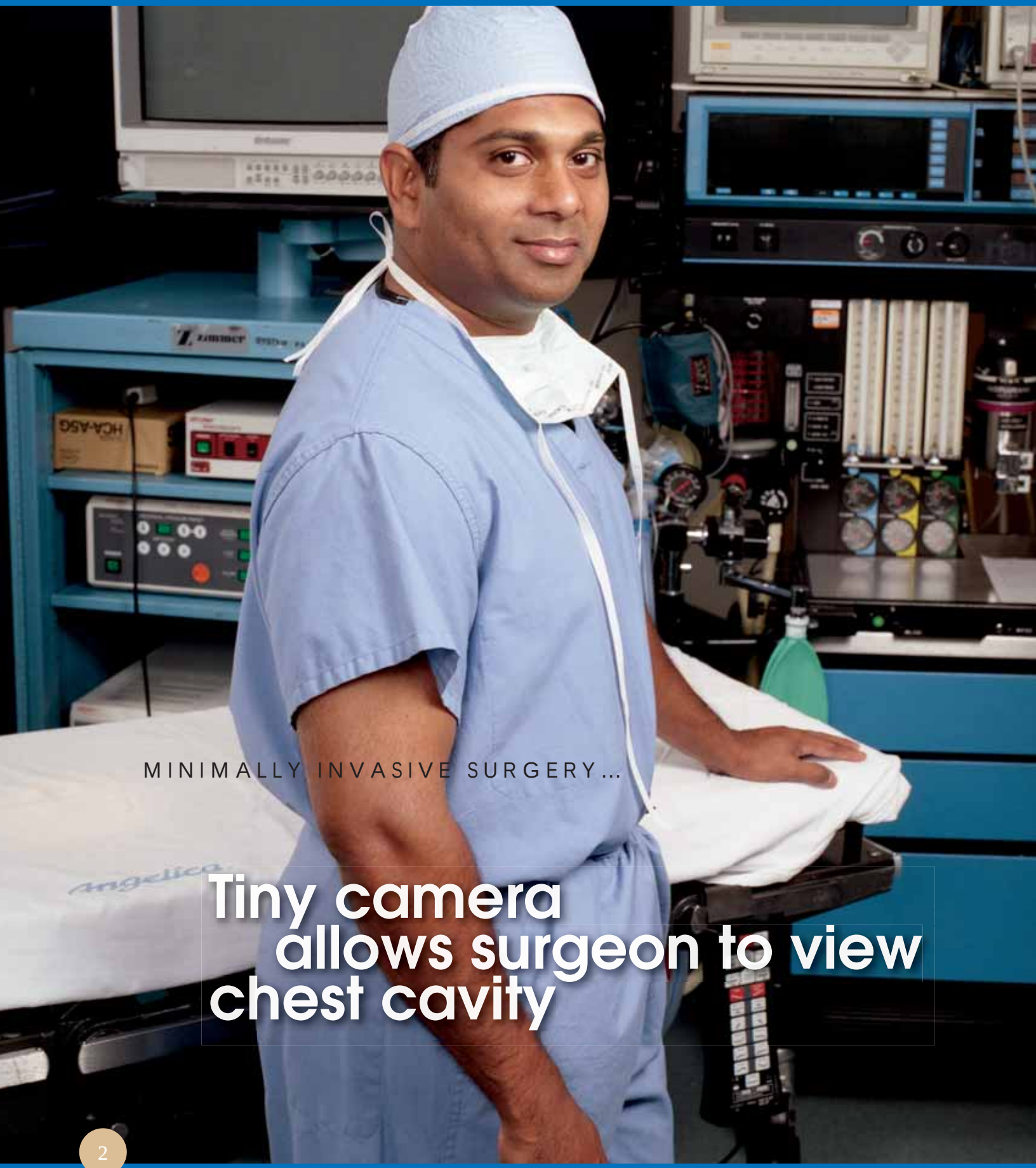

MINIMALLY INVASIVE SURGERY...

Tiny camera allows surgeon to view chest cavity

When Reginald Abraham, M.D., is performing lung surgery at Mercy Hospital, his eyes look past the patient toward a video screen in front of him.

There, he sees an enlarged picture of his patient's lung — brought to him by the tiny camera at the end of a tube inserted via a small incision. The surgery, referred to as video-assisted thoracic surgery, allows the physician to view the inside of the chest cavity, and remove tumors or masses for biopsy.

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"With this less invasive process, we are able to accomplish the same goal as the comparable open procedure, and the patient experiences less pain and a shorter hospital stay," said Dr. Abraham, a board certified surgeon specializing in cardiothoracic surgery.

In addition to providing surgeons with a less invasive way to remove gall bladders and lung tumors, the video-assisted procedure is useful for diagnosing certain types of pneumonia and infections or tumors of the chest wall. Surgeons also can use a video-assisted procedure to re-expand lungs that repeatedly collapse.

HOW THE PROCEDURE IS PERFORMED

A patient having video-assisted thoracic surgery will be laying on his or her side. The surgeon will make a small incision, usually between the patient's sixth or seventh ribs, and carbon dioxide gas will be allowed to flow into the chest through the opening. The patient's lung on that side will be partly or completely collapsed, controlled by a special breathing tube.

A tiny camera on the end of a tube will then be inserted through the opening. At that point, the surgeon can begin viewing the process on the video screen.

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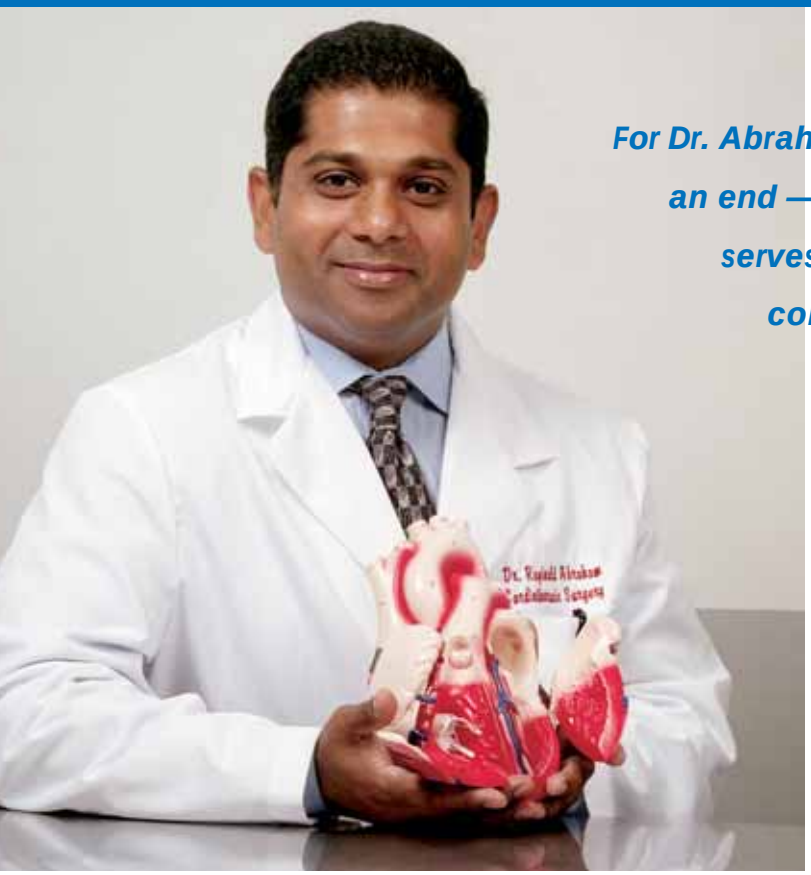
For most procedures, the surgeon will make one or two other small incisions. These will provide chest access for additional instruments, such as equipment that can burn away scar tissue and tools to remove small biopsy samples. Usually, the incisions are made along the patient's lower ribcage.

After the surgery is completed, the instruments are removed and the lung re-inflated.



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HIGH TECH, HIGH TOUCH

For Dr. Abraham, the use of technology is a means to an end — better outcomes for the patients he serves. He is enthusiastic about the increasing use of video technology, computers and other high-tech support in the operating room. They not only allow surgeons to do traditional procedures in a less invasive manner, but they also lead to exciting new ways of solving old problems.

A case in point is a high-tech heart treatment that helps those suffering from angina, or chronic chest pain and discomfort. Dr. Abraham was the first surgeon in Bakersfield to perform transmyocardial revascularization, or TMR, a surgery which uses a laser to open tiny pathways in the heart. Through these pathways, the heart muscle is stimulated to grow new, small vessels.

"The procedure improves patient comfort and offers hope to those people whose only other option may have been a heart transplant," said Dr. Abraham.

Another new technology being adopted throughout the country is allowing heart surgeries to be performed "off-pump," keeping the heart beating while surgery is performed.

"What we are finding is that patients do much better when the surgery is performed off-pump," said Dr. Abraham, who was trained in the "beating-heart" surgery technique by Tom Salerno, M.D., a leader in the field of cardiac surgery. Dr. Salerno, one of the developers of beating heart surgery, was chairman of the cardiothoracic program at State University of New York when Dr. Abraham completed a residency and fellowship there.

The advantage of the beating-heart procedure is the avoidance of the side-effects that can be associated with the pump.

While the surgery is more difficult to perform than traditional open heart surgeries, Dr. Abraham believes it is better for most patients. Many surgeons, including Dr. Abraham, have reported reductions in the cognitive dysfunction that can occur after heart surgery. He added that the use of beating-heart surgery also has reduced the incident of stroke, new heart attacks, and lung and kidney problems in heart patients undergoing bypass surgery.