



*Dr. Maley, foreground right, uses GPS-like navigation to steer a catheter through a patient's lung.*

## A Pittsburgh First St. Clair Physicians Using GPS-Like System to Aid Patients

For patients, the discovery of a nodule in a lung or a swollen lymph node in the chest cavity is always a potentially life-altering situation, complicated by the fact that the diagnosis of these nodules or lymph nodes is often difficult. For decades, thoracic surgeons have used three different types of conventional diagnostic techniques to reach worrisome nodules or lymph nodes.

The first option is to do a surgical biopsy. This will often yield an answer. However, surgery can be risky and painful. The second option is to insert a needle through the chest wall into the lung using radiology pictures as a guide. This also has a reasonable chance of diagnosing the problem, but can result in a collapsed lung. The third option is to use a conventional flexible bronchoscope. This is minimally invasive and of low risk, but can only reach about one third of the nodules or lymph nodes which need to be diagnosed, yielding an answer only 33 percent of the time.

Recently, though, new technology has become available to improve the reach of a conventional bronchoscope. Using a steerable small catheter inserted through the bronchoscope, a GPS-like system can navigate the catheter to a specific lung nodule or lymph node. This system yields an answer approximately 80 percent of the time.

For several months, St. Clair Hospital has had this new technology. The system is called iLogic Inreach by superDimension. **Richard H. Maley, M.D.**, a board certified thoracic surgeon at St. Clair, is perfecting this advanced diagnostic technique.

"I think this is the best technology that we have had to date to get a tissue diagnosis of these hard to reach spots," says Dr. Maley. "As far as diagnosing, this is state-of-the-art."

On a recent afternoon, Dr. Maley used the iLogic system to obtain a sample from a lymph node in the right lung of 63-year-old **Donald Drew** of Bridgeville.

Just prior to being put to sleep for the procedure, Donald explains he was diagnosed with Large B-Cell Lymphoma, a cancer in the lymphatic system of his neck, a little over two years ago.

*continued on page 2*

## A Pittsburgh First St. Clair Surgeons Using GPS-Like Mapping to Aid Patients

*continued*



*This artist's rendering depicts how the iLogic Inreach system is used to access hard-to-reach nodules or lymph nodes in the lungs.*

Donald was in remission for about 15 months when a follow-up exam revealed a cancerous nodule on his right lung and an enlarged lymph node in the center of his chest. A biopsy of the lung nodule showed lung cancer, not lymphoma. Perhaps, Donald's oncologist believed, the lung cancer had spread to the lymph node. But while three chemotherapy treatments for the lung cancer helped shrink the tumor, it had no effect on the enlarged lymph node. In fact, it grew larger.

As Donald is prepped for the procedure in the operating room, Dr. Maley explains that he needs to access the lymph node in the lung to determine if Donald's lymphoma, once confined to his neck, was now also in his chest, or if the lymph node just contained drug resistant lung cancer.

Lymph nodes in the chest, though, are not directly accessible via the windpipe, explains Dr. Maley. "So we're going to use the navigational system to find the lymph node right outside of the windpipe. Once we find it, I'll use a needle in the catheter to stick it through the windpipe and into the lymph node and extract some cells for a biopsy."

Using the iLogic system and a high resolution image of Donald's lungs, which earlier had been captured by a St. Clair CT Technologist using the Hospital's 64 Slice Computed Tomography (CT) Scanner, Dr. Maley steers the catheter toward the lymph node.

Once he collects a sample of the lymph node, it is placed on a sterile microscope slide and examined by a team from the Hospital's Pathology Department who quietly slip into the operating room during the procedure.

Unfortunately, the lymph node biopsy showed the node contained lung cancer cells. Donald is receiving radiation therapy treatments at St. Clair Hospital to kill the drug resistant tumor.

Dr. Maley and fellow St. Clair Hospital physicians **Mathew A. VanDeusen, M.D.**, **Stephen G. Basheda, D.O.** and **Evan R. Restelli, D.O.** are the first doctors to use the iLogic Inreach system in Pittsburgh.

For more information on the iLogic Inreach system, please contact one of the above physicians via this website's Physician Directory.