

Eisenhower — superDimension's inReach



Shahriyar Tavakoli, MD, directs the steerable navigation catheter into the bronchoscope while viewing the 3-D mapping of the lung on the monitor. In March, Eisenhower Medical Center became the only hospital in Southern California, and one of only three locations in California, to offer superDimension's inReach™ system, providing the possibility to detect lung cancer early, even before symptoms are evident, and enhancing treatment options for patients. Using an electromagnetic navigation system, inReach guides the physician through patient's airways to the lungs.

A minimally invasive procedure, the InReach system allows a pulmonologist (a physician specializing in diseases of the lungs) to take tissue samples in regions of the lungs that are not reachable with traditional bronchoscopy — a medical procedure in which a tube is inserted into the airways through the nose or mouth. Until now, physicians have had to rely on a needle biopsy or surgery to take tissue samples from these regions, but the inReach, in conjunction with the bronchoscope, offers access without the risks often associated with surgery.

Similar to the Global Positioning System (GPS), inReach's advanced navigation provides the physician with a virtual three-dimensional (3-D) roadmap of the lungs. *"This beneficial tool can be used by pulmonologists, thoracic surgeons and oncologists to diagnose, stage and treat lung cancer,"* says Eisenhower's Shahriyar Tavakoli, MD, Section Chief of Pulmonary Diseases and Board Certified in Pulmonary and Critical Care Medicine.

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[PHOTO dir="assets/news/drtavakolisuperdimensionscreen.jpg" align="right" caption="A monitor shows a patient's CT scan combined with the inReach virtual lesion mapping program. The orange circle with the green arrow demonstrates that the navigation catheter has reached its lesion." width="250"]

Using inReach planning software, the system converts the virtual roadmap of the lungs to real time navigation by creating fusion between computed tomography (CT) images and the patient's body. During the procedure, electromagnetic sensors guide a catheter through the bronchoscope into the lungs and to the exact location where the physician wants to take a tissue sample.

Dr. Tavakoli sees the benefits for his patients. *"It is very exciting. We have done several procedures for various pulmonary diseases. It is beneficial to a wide range of patients, including those who suffer from poor lung function or have had cancer, chemotherapy, or radiation therapy."*

Dr. Tavakoli is grateful for the opportunity to use the new technology. *"Eisenhower's inReach system was made possible by a generous gift from Mr. and Mrs. Edward H. Peterson and was coordinated by Monica Khanna, MD, Medical Director, Eisenhower BIGHORN Radiation Oncology Center, and Betty Wolf, Executive Director, Eisenhower Medical Center Foundation,"* says Dr. Tavakoli.

Eisenhower's multi-disciplinary approach to cancer care is enhanced by the inReach system. Dr. Tavakoli explains, *"We can use this system to insert radioactive seeds (markers) into lesions, which will help guide the radiation oncologist to the exact location for radiation treatment of cancer. I will work directly with Dr. Khanna in this endeavor."*