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Navigation Sciences Announces Publication in *JTCVS Techniques* of NaviSci™ System Clinical Feasibility Trial in Early-Stage Lung Cancer Localization and Resection

System is the first to demonstrate real-time, intraoperative tumor margin assessment to ensure complete nodule resection despite deformation

Brookline, MA, September 30, 2025 – Navigation Sciences today announced the publication of the Company's clinical feasibility trial of its NaviSci™ System for the precision surgical localization and resection of lung tumors. The trial, conducted by researchers at Brigham and Women's Hospital (Boston), is the first to demonstrate real-time intraoperative tumor margin assessment to ensure nodule resection despite lung deformation for surgery. The **trial** was published in ***JTCVS Techniques***, a peer-reviewed open access journal published by the American Association for Thoracic Surgery.

"Lung cancer is increasingly being diagnosed earlier, opening the door to minimally invasive, tissue-sparing surgery for small tumor nodules that preserves more lung function while producing comparable outcomes to full lobar resections," said Jayender Jagadeesan, PhD., Associate Professor of Radiology, Brigham and Women's Hospital, "However, these advances present new challenges, including the accurate localization and resection with adequate margins to prevent local recurrence."

Currently, tumor nodules are localized prior to surgery by CT imaging when the lung is inflated. During surgery, the lung is deflated, which complicates tumor localization and margin assessment based on preoperative images, visual inspection, and palpation, particularly for smaller and deeper nodules.

"Based on the trial results, we believe this system is the first to be clinically validated in humans and can guide surgeons so that they can achieve sufficient resection margins despite significant manipulation, deformation, and collapsing of the lung," said Scott Swanson, MD, Director of Minimally Invasive Thoracic Surgery at Brigham and Women's Hospital and the study's Principal Investigator. "This trial demonstrated the ability of the system to measure intraoperative distances to the surgical cut line accurately. The trial also established a safe and optimal workflow using the navigation system."

"Publication of this trial is an important milestone for Navigation Sciences," said Alan Lucas, Navigation Sciences CEO. "We have advanced development of the NaviSci System following these promising clinical results and are poised to complete work needed to submit an application to the FDA for marketing clearance."

The NaviSci System utilizes a fiducial marker called a J-Bar, which contains an electromagnetic sensor and is placed adjacent to the tumor to localize and track its position. A surgical cutting instrument contains a second position sensor. The system's software, which links the two sensors, enables the tumor to be accurately localized in the deflated lung as well as provides visual and quantitative information to measure and surgical distances in real time.

The overall objectives of the trial were to establish an optimal workflow for placing the J-Bar and resecting the tumor nodule using the system and to determine the system's accuracy "by comparing the

software-measured J-Bar to stapler distances measured using a caliper from pathology as a first step towards evaluating margin distances," according to the publication.

In the trial, 22 eligible tumor resection procedures using minimally invasive video-assisted thoracic surgery (VATS) on 21 patients were analyzed. In 21 of the procedures, the J-Bar was placed after localization by palpation, and one was placed after localization by intraoperative C-arm CT imaging guidance in the inflated lung. The J-Bar was successfully placed in all of the procedures close to the nodule without any complications. Based on the results, "there was a significant correlation between the software readings and the pathological J-Bar-tip readings," the researchers found. The median time needed to place the J-Bar was 2.8 minutes, and to clamp the sensorized surgical stapler at the first staple line was 1.8 minutes, underscoring the simplicity of the J-Bar setup. In the trial, there were no study related or unanticipated adverse events related to the device.

The study is titled **"Real-time Margin Assessment for Video-Assisted Thoracic Surgery: A Pilot Clinical Trial"**. In addition to Drs. Swanson and Jagadeesan, and Mr. Lucas, the study authors are PhD, Sara Lobo, BS, Julie Barlow, MS, Ahmed Sadek, MD, Zahra Sarawat Alam, BS, Rajat Mukherjee, PhD, Eric Schmidlin, MD, Michael T. Jaklitsch, MD, Lynette Marie Scholl, MD, and Raphael Bueno, MD. Dr. Bueno, Dr. Jagadeesan, and Mr. Lucas are co-founders of Navigation Sciences.

About Navigation Sciences™
Navigation Sciences™ is a clinical-stage company developing the NaviSci™ System for the tissue conserving removal of lung cancer and other tumors. The System integrates augmented reality and advanced software with surgical instruments to guide precise surgical resection, enabling real-time in vivo measurements and margin measurement for the first time. The System aims to improve surgical outcomes with cutting-edge technologies that reduce recurrence risk, conserve lung function, shorten hospital length of stay, and enhance surgical workflow. The NaviSci System is based on technology exclusively licensed from the Brigham and Women's Hospital. Learn more at www.navigationsci.com

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