Consolidating The Pathway of Care with Robotic Bronchoscopy

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BACKGROUND: Time to diagnosis in lung cancer has been notoriously long, ranging anywhere from 90 to 120 days from initial suspicion to tissue diagnosis. This is attributed to the multiple consultants usually involved in care prior to diagnosis. Namely, an Internist, Pulmonologist, Interventional Radiologist and at times, a Thoracic Surgeon and/or a Medical Oncologist. The Robotic Bronchoscopy platform introduced by Intuitive Surgical, Ion (TM), has had promising results in consolidating the entire pathway.

METHODS: The ION Endoluminal system by Intuitive Surgical combines shape sensing technology with a flexible catheter tip along with accurate real time feedback using a vision probe. The unprecedented stability of the catheter combined with the exceptional ability of navigation gives tremendous potential for accuracy in diagnosis.

RESULTS: Currently there is the literature shows a human study performed by Fielding et al. having 88% diagnostic yield of malignancy with 29 patients and median size of nodule being 12.2 mm. The cadaver based Precision-1 study has showed 100% accuracy in achieving localization of the nodule. Our current limited experience of 3 patients with a median size of nodule being 2 cm also achieved similar accuracy. CONCLUSIONS: This innovation can allow Thoracic surgeons to be the the destination consultants for all primary care physicians to manage, diagnose and treat all lung nodules, eliminating the need for multiple consultants and which would save cost and truncate the time to diagnose for lung cancer. Based on published evidence and our own limited experience the novel technology has a potential to change how care is administered for lung cancer.





