

EDITORIAL

**Bronchoscopy Past, Present and Future
All Dreams Become Real**

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Looking inside Tracheo-Bronchial tree was a dream for a thoracic surgeon.

Gustav Killian (1860 –1921), the father of bronchoscopy .He was a German laryngologist, was appointed a professor of ENT at the University of Freiburg in 1892.

Gustav Killian in 1897 succeeded in removing aspirated pork bone from the bronchus of a 63-year-old farmer, under cocaine anesthesia. He used external light source, a head mirror, Esophagoscope and forceps to remove the bone.

He became famous and his clinic attracted patients from far and wide for his expertise in removing different kind of foreign bodies (FB) such as bones, beans, buttons, coins and tin whistle. Gustav Killian demonstrating his Pioneer bronchoscope on a cadaver in 1890. Up to that time, no one had dared to introduce tube into the trachea, no one had the courage to do it

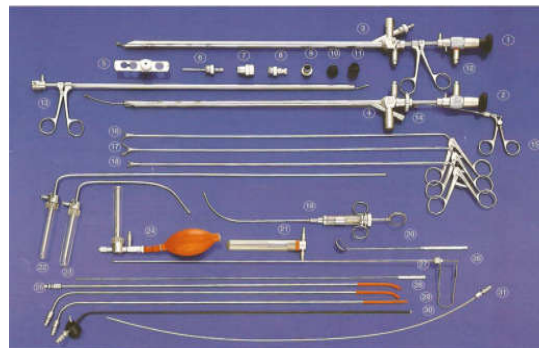


Chevalier Jackson, an American otolaryngologist, laid the platform for modern-day rigid bronchoscope in the early twentieth century.

Early in the 1960s Shigeto Ikeda devised a means to replace the small electric bulb with glass fibers capable of transmitting brighter light from

an outside source. He presented the first flexible bronchoscope at the 1966 International Congress on Diseases of the Chest in Copenhagen.

1980s, the replacement of the Fiberoptic bundle with a charge-coupled sensor at the tip of the scope. This video bronchoscope allowed the bronchoscopist to look at a monitor screen instead of looking through the eyepiece of the scope.



A-Rigid Bronchoscopy set



B- Flexible Bronchoscope



C-Video bronchoscope

In Our Department, the first trial of starting Fiberoptic bronchoscopy (FOB) was with Prof. Nazar El-Hassani and Prof. Faek Al-Alwsi late 1989, but the starting was at Al-Jirahat Specialties Hospital, at which we established a small FOB Suite at the 9th. Floor in early 1991. Today we have the rigid bronchoscope, video-flexible bronchoscope, Infantile and paediatric flexible Bronchoscope.

In the early 1980s Ko-Pen Wang introduced Trans-bronchial needle aspiration to sample mediastinal lesions while Jean-François Dumon developed methods for laser photo resection and for placing stents through the bronchoscope. More recently, application of endo- bronchial ultrasound (EBUS) to assess the peri –bronchial tissues.

Rigid bronchoscopy (the forgotten art) is superior to the flexible Fiberoptic bronchoscopy in several clinical situations. General anesthesia is usually used with side port ventilation. In children, removal of foreign bodies is an important indication. Tracheal stricture dilatation and cryotherapy are indications in adults, but laser bronchoscopy has become the major indication for rigid bronchoscopy in adult medicine.

Today, bronchoscopy and interventional pulmonology have become an integral part of pulmonary medicine and an established subspecialty.

Robotic bronchoscopy: An article published in 2018 (Robotic bronchoscopy for the diagnosis of suspected lung cancer) by Rojas-Solano, support feasibility of the Robotic Endoscopy System (RES) in accessing the periphery of the lung. The RES has the potential to address challenges associated with biopsy of peripheral lung lesions.

Recently, a new treatment for aspergilloma was developed using bronchoscopy. In the presence of an access point to the cavity from an airway, endoscopic removal of the fungus ball

and cleaning of the lung cavity with the combination of a rigid and a flexible bronchoscope.

As the technology improves, there will be new tools and new challenges. Medicine is evolving toward less-invasive, higher-yield approaches with fewer complications, and bronchoscopy is a good example of that progress.

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