

Cannulation Procedures Using Rigid Bronchoscopy Critical Care and Pulmonary Medicine

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Introduction

A rigid bronchoscope is a hollow stainless steel tube through which a rigid telescope is inserted. It is used to get access to the central airways. The diameters and lengths of the external diameters and lengths vary based on the manufacturer. The rigid bronchoscope's distal end is generally bevelled to aid intubation and epiglottis rising, while the proximal section is equipped with attachments, side port ventilation, and the ability to insert supplementary equipment [1].

Definition

The oropharynx, larynx, voice cords, and tracheal bronchial tree are all seen using rigid bronchoscopy, which is an invasive operation. Lung problems are diagnosed and treated with this procedure. The surgery can be done in an endoscopic suite with available anaesthetic, but its best done in the operating room, and only very rarely in the intensive care unit. It's typically used in conjunction with flexible bronchoscopy to improve distal airway visibility and suctioning [2].

What is the purpose of it?

- Instruments, such as airway devices, can be put into this stiff device, giving the pulmonary physician improved airway access.
- Bronchoscopy can be used to identify infections, cancers, inflammatory diseases, sarcoidosis, and lymphoma.
- Rigid bronchoscopes can also be used to treat airway blockage, airway constriction (stenosis), airway malignancies, bleeding, and to remove foreign or aspirated objects.
- What Is Rigid Bronchoscopy Different From Other Bronchoscopies?
- Air (ventilation) may be given to the patient using the rigid scope.
- Rigid Bronchoscopy Benefits
- Airway is secure during the operation Larger biopsies, tamponade (halt) bleeding regions, excision of airway tumours and foreign objects, and the use of airway devices such tracheobronchial stents to keep collapsing airways open are all possible [3].
- Equipment

A variety of sizes of ventilating bronchoscopes should be offered. The rigid barrel may be illuminated with a halogenated light, and 0°, 30°, and 90° telescopes can be put down the rigid barrel to aid visibility. Grippers, biopsy forceps, and suction equipment should all be readily available. It's nice to have video capabilities, but it's not required. Normal saline solution, lubricating jelly, syringes, and suction tubing are examples of various supplies that should be provided.

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Technique

In the supine posture, the patient is put. The head should be propped up on a small cushion or foam rest, and the table should be curved or stretched as needed. The epiglottis is gently raised with the end of the bronchoscope once the equipment is introduced, allowing the larynx and vocal tract to be examined. The bronchoscope is tilted 90 degrees vertically to pass through the vocal chords after the vocal cords have been viewed. This provides the least amount of resistance and protects the voice chords. The bronchoscope is returned to its neutral position after entering the upper trachea [4].

The side port is used to start the ventilation process. The bronchoscope is softly moved toward the carina and placed into each main stem bronchus in a methodical manner. There are anomalies in the anatomical, airway, and mucosal systems. To see the distal bronchoscope, telescopes can be put into the rigid bronchoscope.

Indications

Rigid bronchoscopy can be used for a variety of reasons, include bleeding or haemorrhage, foreign object removal, deep biopsy specimen whenever a fibrotic specimen is insufficient, trachea or bronchial stricture dilatation, airways blockage alleviation, stent insertion, and paediatric bronchoscopy. It's also employed in upper airway laser therapy and other mechanical tumour ablation techniques [5].

Contraindications

Towards the rookie operator, related contraindications include uncontrolled coagulopathy, extreme ventilator and oxygenated demands, and trachea blockage.

Risks

The majority of the risks associated with rigid bronchoscopy may be avoided. Injury to the teeth or gums, tracheal or bronchial rips, or excessive bleeding are all examples. The rate of complications should be less than 0.1 per cent. It is uncommon for a patient to die as a result of a procedure).

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