

New Design For The Endotracheal Tube

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Technology description

Two port, endotracheal tube that eliminates accidental extubation due to head movements and allows parallel medical procedures that use the respiratory tract. The straight port is used for stylet suction tubing and the introduction of other apparatus and the curved port is used for connecting to the ventilator and sensors.

Respiratory failure is not an uncommon phenomenon and may occur due to failure or malfunctioning of organs in the respiratory tract.

In the case of this event, normal respiration is restored using a mechanical device called ventilator that delivers air to the patient with appropriate oxygen composition, at an appropriate rate. Air is delivered from the ventilator to the lungs through a specially designed tube, termed endotracheal tube.

Endotracheal is inserted through the patient's mouth or nose and passes through the throat and vocal cords. Endotracheal tubes in use today can suffer extubation with small head movements made by the patient and also prevent physicians or surgeons from performing tasks such as bronchoscopy. The disclosed invention eliminates these problems and improves the outcomes of medical procedures.

The UIC researcher has invented a new endotracheal tube that eliminates its accidental extubation due to head movements. This new design also allows parallel medical procedures that use the respiratory tract, such as bronchoscopy.

The novelty of the new endotracheal tube lies in its two port design; a short, straight port and a distal port. The straight port is used for stylet, suction tubing, and the introduction of other apparatus such as bronchoscope or in-line suction or endotracheal tube exchanger devices.

The curved port is used for connecting the endotracheal tube to the ventilator and sensors, such as used for end-tidal carbon dioxide measurements.

Application area

Treatment of respiratory failure

Thoracic surgeries

Advantages

Not only is this new endotracheal tube secured at the lip, but its curved port also allows it to be secured at the mandible, thus minimizing the chance of inadvertent extubation

The new tube also distributes the weight of other accessories on ports thus minimizing the chance of inadvertent extubation

Being secured at the mandible allows the tube to move with side to side movements of the head

The straight port is closer to the lip and is shorter, thus facilitating the introduction of a bronchoscope or other devices.

Institution

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