

Applications

- Prevention of hospital-acquired infections in emergency care settings
- Prevention of infections in nursing homes and extended care facilities
- Administration of laryngeal and posterior pharyngeal anesthesia

Advantages

- Adaptable to currently available tubing and catheters
- Allows for mobility of patients
- Low cost
- Reduces the times patients require mechanical ventilation

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Market Need

Approximately 10% of hospitalized patients will acquire an infection after admission. These infections include ventilator associated pneumonia (VAP), urinary tract infections and other catheter-related infections. VAP, which occurs in patients who are intubated and mechanically ventilated for more than 48 hours, is the most common and lethal form of hospital-acquired infections and is associated with increased morbidity and mortality in the intensive care unit. The high incidence of VAP and other hospital-related infections is a serious health concern that is not adequately addressed by current technologies that lack antimicrobial function and prevent patient mobility. Therefore, new technologies that address these issues are needed.

Technology Summary

This invention is a new multifunctional device for prevention of a variety of hospital-acquired infections including ventilator associated and aspiration pneumonia, urinary tract and catheter related infections. It consists of disposable materials embedded with anti-infective agents designed to be used in conjunction with current medical products. This invention allows for flexibility in its clinical use because it is widely adaptable to existing catheters and tubing. For example, in one form this device acts as an adjunct to standard endotracheal tubes (ETT) allowing it to serve as a means to reduce accumulation of secretions, act as a mechanical barrier to leakage of secretions around the ETT and provide continuous antimicrobial delivery to the oropharynx and periglottic area. Additionally, the device could allow for continuous delivery of anesthetic to the oropharynx and periglottic area allowing for the reduction in systemic sedation and thus reducing the time spent under mechanical ventilation. This technology can also be applied to intravenous and urinary catheters to prevent infections.

Technology Status

U.S. Patent: 8,042,544.

This technology is available for licensing to industry for further development and commercialization.