Hospital General Universitario Gregorio Marañón

Comunidad de Madrid

Portable Inclinometer to Prevent and Reduce Ventilator-Associated Pneumonia

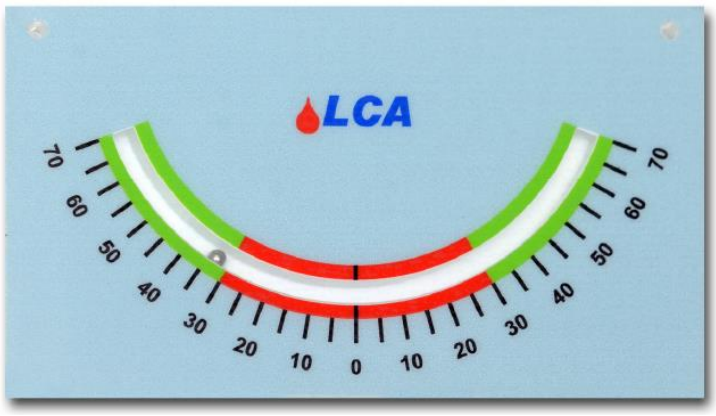
Introduction

The most common infectious complication in intensive care unit (ICU) patients is ventilator-associated pneumonia (VAP). VAP increases morbidity and mortality, as well as days of mechanical ventilation and length of stay in the ICU and the hospital and has an estimated cost per episode of around 25,000 €.

Different prevention measures of VAP include subglottic suctioning, hand hygiene, mouth hygiene avoiding water condensation in the respirator circuit and keeping the patient in a semirecumbent position are among the measures with demonstrated efficacy in VAP prevention. However the human eye tends to overestimate the inclination of the bed

Invention

The invention is a portable inclinometer system to control the position of the patient in a hospital bed or chair by measuring the angle. Studies show that keeping the patient in a half sitting position with an inclination between 30-45 degrees with the horizon prevents and reduces VAP.



State of Development

The device is used in daily clinical practice in the ICU at the *Hospital General Universitario Gregorio Marañón*. The next step is to create a real time optical and/or acoustical alert system that sends a notice to medical personnel in case the inclination of the patient's bed or chair is not correct.

Advantages

- Controls the patient´s position in either a hospital bed or a chair at the desired inclination.
- Reduces aspiration of tracheal secretions and therefore reduces the infectious colonization causing VAP.
- It is small, has a robust design and is easy to use.
- The inclinometer system can be composed with all types of inclinometers: mechanical, electric or bubble.
- It is portable and can be attached to the patient´s bed or chair where needed.
- Optic and/or acoustic alert system for the medical staff.
- Reduces hospitalization days for the patient.
- Optimizes and lowers costs in the hospital and in the overall healthcare system.

Application

The product has a medical application and is targeted to be used in beds inside and outside of intensive care units.

Market potential

It has a global market potential because VAP is the number one infectious complication in intensive care unit patients.

IPR Position

Utility Model application number 201430814.

Inventors

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Opportunity

We have an established collaboration with a production partner, which also could be used by another commercial actor interested in buying the device or licensing the utility model rights.

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