



Service Priorities and Programmes Electronic Presentations

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Choosing the Humidification Device Wisely: An Evidence-based Practice

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Introduction

In ICU, most of the patients have an artificial airway in place to assist ventilation. Inadequate humidification of the airway may result in complications, such as endotracheal tube occlusion and increased workload on respiratory muscles. Heated Humidifier (HH) has been one of the most popular means to prevent the aforementioned complication by providing warmth and moisture to the patient's airway. However, this measure has been mostly replaced by the use of Heat-and-Moisture Exchanger (HME) since the SARS outbreak in 2003 for the fear of spreading the contaminated aerosols. Meanwhile, there lacks clear guidelines or protocol for determining the use of humidification devices, and thus nursing practice varies and is inconsistent in choosing appropriate devices.

Objectives

1. To review the evidence in determining the choice of humidification device for patients with artificial airway
2. To bring the evidence into practice by formulating evidence-based work instruction

Methodology

A systematic literature review was conducted in January, 2016. Nine high-quality research studies were retrieved from Pubmed, CINAHL and Cochrane Library electronic bibliographic databases. Critical appraisal of these studies and synthesis of findings have been performed.

Result

Evidence from literatures suggested that the initial application of HME for ventilation ranged from less than 24 hours to 7 days. Also, the evidence showed that the use of HH had favorable effects on respiratory mechanics and prevention of tube occlusion. Furthermore, it recommended that the selection of humidification device may change during the course of treatment. The evidence-based work instruction is then developed to guide nurses to make a wise choice in choosing appropriate humidification devices.