

ABSTRACT

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Title of diploma thesis: Preoxygenation before suction of patients on mechanical ventilation

The standard procedure for patient care in intensive care units is the suctioning from the lower respiratory tract. This process is necessary to keep the airways clear and open. Suctioning can lead to a number of post-suction complications such as asystole, bradycardia/tachycardia, desaturation and changes in blood pressure values. Preoxygenation before suction from the lower respiratory tract appears to be an effective method to prevent the complications described above.

Current research indicates that preoxygenation prevents a decrease in saturation. This information led us to the question of whether preoxygenation can positively affect other physiological functions as well. After reviewing articles, we realized that saturation values were only assessed without discrimination among reasons for artificial ventilation. Therefore, we came up with a research question which lung diseases/disorders could benefit from preoxygenation by monitoring immediate post-suction complications (pulse variability, fluctuations in mean blood pressure, SpO₂ and airway resistance) following preoxygenation.

As a part of the diploma we discovered that preoxygenation positively affects not only the saturation values but also improves heart rate stability: the values of which do not fluctuate significantly. No positive effect was shown for blood pressure and airway resistance.