



**Service Priorities and Programmes**  
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**Limiting Reintubation: Effectiveness on Immediate Application of High Flow Oxygen After Endotracheal Extubation**

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**Introduction**

Paramount population in Intensive Care Unit is intubated due to respiratory failure or prophylactic on behalf of underlying diseases. (More than 280 cases per year from 2010-2016 in PMH ICU). Liberation of mechanical support should be balanced with the risk of further complications, such as reintubation. Variety of post-extubation treatments also exacerbate the reintubation rate in our department.

**Objectives**

To determine whether using high flow oxygen devices including non-invasive ventilation (NIV) or high flow nasal cannula (HFNC) can diminish reintubation.

**Methodology**

A literature review was conducted on papers published between 2010 and 2017. The review was based on the guidelines proposed by Consort (2010) and facilitated with Essential of Nursing Research (2014). With specific inclusive and exclusive criteria, totally 7 randomized control trial studies were selected and further analyzed after full text screening.

**Result**

Results:

Comparing with traditional low flow devices such as simple mask and nasal cannula, most studies indicated the use of NIV after successful spontaneous breathing trial in planned extubation significantly reduced reintubation rate. Furthermore, adopting NIV after planned extubation notably declined reintubation in COPD and high risk patients. Whereas HFNC was found to be increased PaO<sub>2</sub>/FiO<sub>2</sub> ratio in post-extubated cases.

Conclusion:

The literature review suggested immediate application of high flow oxygen devices after endotracheal extubation successfully lower the reintubation rate in ICU. Therefore, this practice should be implemented and would offer significant

advantages to all planned extubation cases.