



**Service Priorities and Programmes**  
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**A protocol for provision of care for patients on acute Non-invasive Ventilation (NIV) care**

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**Introduction**

There is evidence showing that NIV can reduce mortality rate, hospital length stay and health complications when comparing with invasive mechanical ventilation. However, NIV failure was contributed by complications and adverse effects. Evidence supported that nurses could contribute to the success of the NIV treatment by minimizing the complications and adverse effects. A protocol guideline can provide standards and practices to nurses to optimally deliver a Non-Invasive Ventilation care for patients with acute respiratory failure. In order to manage rising the demand of NIV for the life threatening illnesses, a NIV protocol was developed in a specialty unit of a district hospital where NIV use was around 300 to 400 times every year since November 2013.

**Objectives**

To develop a protocol guideline for provision of NIV care  
To provide care to patients requiring NIV by prevention of complications with minimal adverse effects  
To preliminarily review the effectiveness of the protocol

**Methodology**

Planning Development of the protocol guideline could contribute to patient care, staff compliance with agreed practices and thus higher successful rate of NIV treatment. The protocol guideline was developed in accordance with reference from HA's policy, best available evidence searched and advanced practice on caring patients on acute NIV. Development Components of the protocol guideline include NIV initiation, monitoring and titration, weaning and outcome parameters. Promotion of the protocol guideline A series of promotional activities were conducted, included short-briefing during shift hand-over, formal 2.5 hours training session and trial run of protocol with immediate feedback. Implementation The protocol had been implemented for all hospitalized patients on acute NIV with acute respiratory failure in November 2013. The implementation of the protocol was supervised and supported by two designated respiratory nurses. Evaluation The compliance with and effectiveness of the protocol

were evaluated by an audit as well as certain physiological parameters. The evaluation was done for consecutive NIV cases in the designated beds in a specialty unit and compared with those in non-specialty units of the department between November and December 2013.

### **Result**

Results There were 29 cases and 25 consecutive cases audited in a respiratory specialty unit and non-respiratory specialty unit in December 2013. The compliance rate with the guideline, mask related skin lesion, and overall self-reported adverse effects was 99% verse 83%, 3.8% verse 12.5% and 9.11% verse 12.17% for designated NIV beds and non-designated NIV beds respectively. The most common adverse effects included mask discomfort, head straps discomfort, pressure discomfort, nasal or oral dryness and eye irritation due to air-leak. Conclusion NIV protocol might contribute to patient care, staff compliance with agreed practices and thus higher successful rate of NIV treatment. The identified prevalence of adverse effects were valuable information for further quality improvement.