



## Service Priorities and Programmes Electronic Presentations

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**The Development of Prone Ventilation for Intubated Patients with**  
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**Introduction**

The intensive care unit (ICU) of United Christian Hospital (UCH) handles over 200 cases with severe pneumonia annually. Since the pandemic of swine flu in 2009, the importance of prone ventilation has been emphasized in many studies, which helps in improving the oxygenation and protects the lung from ventilator-associated injuries in patients with acute respiratory distress syndromes.

**Objectives**

The objectives of this project are to: 1) set up a clinical guideline for prone ventilation in UCH ICU, 2) strengthen the competencies of the staff when performing prone position, 3) explore the necessity of acquiring essential hardware, and 4) investigate the patient response to the procedure.

**Methodology**

The project was divided into two phases. In the initial phase, a clinical guideline and a checklist for performing prone ventilation were tailor-made with reference to the latest literatures and occupational safety & health guidelines and liaised with the daily operations of UCH ICU. Essential medical device was also purchased. After the management level endorsed the related documents, the training phase was then initiated. Medical and nursing staffs were invited to attend lectures and workshops to equip them with the theory and the clinical skills of performing providing prone ventilation. The details and significance of the procedure were also discussed. Patients were selected according to the specific criteria with reference to the latest researches.

**Result**

**Results** 1) Total 70% of staffs (including 63 nurses and 7 doctors) participated in the training program in early 2014. All of them responded positively and expressed that their competency of performing prone ventilation and the awareness of preventing complications were increased. 2) Essential equipment, e.g. a set of headgear, was purchased. 3) From April 2014 to November 2015, total 6 patients were recruited; with the longest treatment time was 16 hours. After 2 hours of commencing the prone

ventilation, significant improvements in blood gaseous results were observed. The skin integrity of the patients was maintained. Also, neither lines nor tube displacement was reported. **Conclusions** Through the project, a comprehensive clinical guideline was developed to meet with the service need and has merged with the daily practice of UCH ICU. Also, positive patient outcomes were observed. Further audit and review of the guideline will be performed in the future so that the quality of the service and the safety of patients and staffs are maintained.