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**The role of  
New Zealand intensive care nurses  
in ventilation management**

A thesis submitted in partial fulfilment of the requirements for the degree of  
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in Nursing

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Mark Henderwood  
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## Abstract

**Introduction:** Previous research about the role of nurses in ventilation management suggests that it is a largely collaborative endeavour between doctors and nurses. These studies, however, are based on the views of nurse managers representing staff as a collective, rather than individual nurses answering from their perspective. Further, previous research only begins to account for the role of automation in ventilation management.

**Aim:** This study describes the role of the New Zealand intensive care nurse in ventilation management and the use of automated ventilator modes.

**Method:** A self-reported online survey using a non-probability sample of intensive care nurses who are members of the New Zealand College of Critical Care Nurses was used (n=204). Data were analysed using quantitative methods to describe and compare with international data.

**Results:** The sample (n=204) had a range of intensive care unit (ICU) experience (0-42years) and 136 (69.7%) had completed a post-graduate critical care specialty qualification. Participants worked in various sized units (2-26 beds). Nurse to patient ratios were 1:1 for intubated patients. Ventilation management protocols were available for 136 (66.7%) participants; however, the effect of protocol availability on clinical practice was insignificant. Nurses in this study had lower perceived autonomy ( $p=0.0006$ ) and more perceived influence ( $p=0.028$ ) in decision-making than their managers reported previously. Consistent with previous research, nurses collaborate with medical staff in fundamental decisions and largely act independently in titrating ventilator settings. New Zealand ICUs have high nurse to patient ratios compared to their European counterparts. While New Zealand ICU nurses have similar reported levels of independent decision-making in oxygen and PEEP titration, they have less independence in adjusting the six other ventilator settings. As in Europe, the most common automated ventilation modes used in New Zealand ICUs are ASV™ and SmartCare™.

**Discussion:** As automated modes independently titrate ventilator settings, the ventilator itself increasingly participates in a role largely identified as the nurses' domain. The study concludes that it is timely for nurses to re-evaluate their role in ventilation management. Rather than focus on the titration of

ventilator settings, nurses could strengthen their contribution in the collaboration of fundamental decisions.

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# The role of New Zealand intensive care nurses in ventilation management

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