



# Correlation Between Adherence to a Ventilator Weaning Protocol and Successful Extubations in an Intensive Care Nursery

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## BACKGROUND

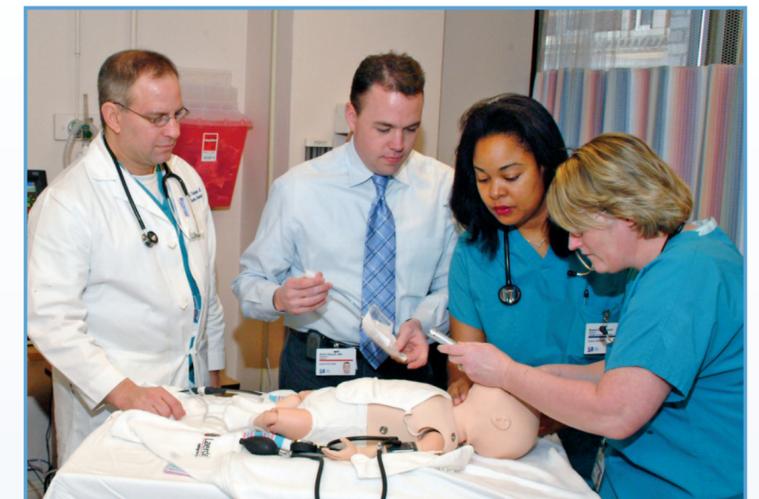
Chronic lung disease (CLD) is a multi-factorial respiratory disease of the preterm neonate for which mechanical ventilation is a significant contributor. Mechanical ventilator weaning protocols have been shown to reduce the duration of mechanical ventilation. A ventilator weaning protocol (VWP) based on Level I-III evidence was instituted in 2004. Compliance with existing VWP is unknown. CLD rates in our unit have increased over the past 3 years. Assessment of and understanding protocol compliance is an important first step in identifying internal factors which may contribute to CLD. Based on increasing rates of CLD, we hypothesize that compliance with existing VWP falls below 80%.

## METHOD

Retrospective review of neonatal charts between 10/2004-10/2011 to assess the degree of compliance to VWP. VWP compliance is defined as weaning Peak Inspiratory Pressure to 8-12 cmh20. At this point, patients are eligible for extubation. Successful extubation is defined as no mechanical ventilation for >72 hours.

## RESULTS

Since the implementation of the Jefferson VWP, 62% of eligible babies had protocol initiation from birth. Median gestational age was 27wks and average weight was 1023g. 80% received surfactant. In 2004-2006, compliance with the VWP was achieved 75% of the time with a 92% extubation rate. 93% of these patients remained extubated for >72 hours. From 2007-2011, compliance with VWP declined to 54% with a 61% extubation rate. Patients in this group who were extubated when extubation criteria were met, remained off of mechanical ventilation for >72 hours 86% of the time.



## CONCLUSION

While the acuity and patient population have not changed, compliance with ventilator weaning protocol and evidence based strategies have decreased in recent years. Poor compliance to VWP may correlate to the increase in CLD in our unit. Our next steps are to understand the barriers and identify the “gaps” associated with the decrease in compliance. Successful re-implementation of the VWP may lead to improved weaning and successful extubation. Compliance coupled with the institution of evidence-based guidelines could lead to decrease days of mechanical ventilation and ultimately may positively impact CLD rates.