## Successful Extubation in Preterm Infants

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January 31, 2022

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To the Editor,

I read with great interest the article by O'Connor et al<sup>1</sup> describing factors that lower the likelihood of successful extubation by day 14 in mechanically ventilated neonates with or at risk of developing bronchopulmonary dysplasia (BPD), born at <30week gestational age (GA). These factors were younger GA at birth, and at the time of commencing steroids had higher MAPs and had higher oxygen requirements. They studied 287 neonates and noted that each additional week of GA at birth led to a 1.53 increase in the odds of successful extubation. Higher average fraction of inspired oxygen (FiO<sub>2</sub>) requirements in the preceding 24 h resulted in a 0.94 decrease in the odds of successful extubation and higher mean airway pressure (MAP) resulted in 0.76 decrease in odds of successful extubation.

I have been using the probability of successful extubation calculator (http://extubation.net/), which incorporates the same factors as described by Connor et al <sup>1</sup>. The calculator was described earlier by Gupta et al <sup>2</sup>. They incorporated GA, MAP and FiO<sub>2</sub> in the calculation, same as Connor et al <sup>1</sup>. The only difference was the inclusion of the respiratory severity score (RSS), which is nothing but a product of MAP and FiO<sub>2</sub> [(RSS= mean airway pressure (cm H2O) x FiO<sub>2</sub> (0.21-1.00)].

Although, we have a probability score model for successful extubation among preterm infants, as described by Gupta et al  $^2$ , I do agree with Connor et al  $^1$  that we need to develop prognostic scoring model for intubated preterm infants.

## References:

O'Connor K, Hurst C, Llewellyn S, Davies M. Factors associated with successful extubation following the first course of systemic dexamethasone in ventilator-dependent preterm infants with or at risk of developing bronchopulmonary dysplasia [published online ahead of print, 2022 Jan 7]. *Pediatr Pulmonol*. 2022;10.1002/ppul.25821. doi:10.1002/ppul.25821

Gupta D, Greenberg RG, Sharma A, et al. A predictive model for extubation readiness in extremely preterm infants. J Perinatol . 2019;39(12):1663-1669. doi:10.1038/s41372-019-0475-x

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