



## The Weaning Index combining EtCO<sub>2</sub> and respiratory rate early identifies Spontaneous Breathing trial failure. A pilot study

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Mots-clés	EtCO <sub>2</sub> [13], Intensive care medicine [14], Mechanical ventilation [15], outcome [16], weaning [17]
Résumé en anglais	<p><b>BACKGROUND:</b> We aimed to evaluate the predictive value of the end-tidal CO<sub>2</sub> (EtCO<sub>2</sub>) alone or combined with ventilation related parameters on spontaneous breathing trial (SBT) outcome on mechanically ventilated patients.</p> <p><b>METHODS:</b> Prospective observational study in a medical ICU. Mechanically ventilated adult patients who met predefined criteria for weaning were included. Patients underwent a T-piece SBT for 30 minutes and the usual hemodynamic and respiratory clinical parameters including EtCO<sub>2</sub> were recorded every 5 minutes.</p> <p><b>RESULTS:</b> 280 patients were studied (age: 64±17 years, SAPS II: 44 [34-56]) during a first SBT and 76 patients during a second SBT. The Weaning Index, defined as the product of the respiratory rate and EtCO<sub>2</sub>, was a strong early predictive factor of SBT outcome; at 10 minutes, the area under the curve (AUC) was 86% ([80-90], P&lt;0.0001) during the first SBT and 88% ([80-96], P&lt;0.0001) during the second SBT. After 10 minutes of SBT, a Weaning Index &gt;1100 identified patients that will not successfully complete the SBT at 30 minutes with a specificity of 98%.</p> <p><b>CONCLUSIONS:</b> In unselected mechanically ventilated patients, the Weaning Index is helpful to early identify patients who will fail the SBT during a first and a second trial.</p>
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- [19] <http://dx.doi.org/10.23736/S0375-9393.18.13108-7>
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