**Supplemental Table 46. Description of the ventilation modes evaluated in this question and the methods used to identify studies and summary data**

Assist-control ventilation includes both pressure-controlled and volume-controlled modes. During assist-control ventilation, each breath is either an assisted breath (triggered by the patient) or a controlled breath (triggered by the ventilator) with a pre-set pressure or volume target for breath delivery.  Thus, on assist-control mode, patients may be actively triggering every breath, or may be completely passive while receiving controlled ventilation, or may fluctuate between assisted and controlled breaths. Adaptive modes of ventilation refer to any mode that utilizes a closed-loop system to continuously adjust the level of assistance provided for each breath according to patient demand.  The adaptive modes studied were: automatically adjusted pressure support [(1)](https://paperpile.com/c/wn1dEh/uc0C), proportional assist ventilation [(2)](https://paperpile.com/c/wn1dEh/hKjf), proportional assist ventilation with load-adjustable gain factors [(3, 4)](https://paperpile.com/c/wn1dEh/JMHjv+wquvw), and neutrally adjusted ventilator assist [(5)](https://paperpile.com/c/wn1dEh/92d4j).  In two studies [(6, 7)](https://paperpile.com/c/wn1dEh/8C9vg+qzS1R), assist-control mode functioned as a controlled mode (high pressures for pressure or volume were used); in one study [(1)](https://paperpile.com/c/wn1dEh/uc0C) (where volume targets were set at a moderate 8 mL/kg)  it performed as an assisted mode with patients making spontaneous efforts. To examine the effect of mode of ventilation on sleep quantity and quality, we chose to group randomized controlled studies for meta-analysis according to the type of mode used (i.e., an assist-control mode, versus pressure support mode, versus an adaptive mode of ventilation). The considerable within-group heterogeneity according to the mode, sub-type and settings applied is noteworthy given the impact this variability will have on the effectiveness being reported.

References

1. [Cabello B, Thille AW, Drouot X, et al.: Sleep quality in mechanically ventilated patients: comparison of three ventilatory modes. *Crit Care Med* 2008; 36:1749–1755](http://paperpile.com/b/wn1dEh/uc0C)

2. [Bosma K, Ferreyra G, Ambrogio C, et al.: Patient-ventilator interaction and sleep in mechanically ventilated patients: pressure support versus proportional assist ventilation. *Crit Care Med* 2007; 35:1048–1054](http://paperpile.com/b/wn1dEh/hKjf)

3. [Alexopoulou C, Kondili E, Vakouti E, et al.: Sleep during proportional-assist ventilation with load-adjustable gain factors in critically ill patients. *Intensive Care Med* 2007; 33:1139–1147](http://paperpile.com/b/wn1dEh/JMHjv)

4. [Alexopoulou C, Kondili E, Plataki M, et al.: Patient-ventilator synchrony and sleep quality with proportional assist and pressure support ventilation. *Intensive Care Med* 2013; 39:1040–1047](http://paperpile.com/b/wn1dEh/wquvw)

5. [Delisle S, Ouellet P, Bellemare P, et al.: Sleep quality in mechanically ventilated patients: comparison between NAVA and PSV modes. *Ann Intensive Care* 2011; 1:42](http://paperpile.com/b/wn1dEh/92d4j)

6. [Andréjak C, Monconduit J, Rose D, et al.: Does using pressure-controlled ventilation to rest respiratory muscles improve sleep in ICU patients? *Respir Med* 2013; 107:534–541](http://paperpile.com/b/wn1dEh/8C9vg)

7. [Toublanc B, Rose D, Glérant J-C, et al.: Assist-control ventilation vs. low levels of pressure support ventilation on sleep quality in intubated ICU patients. *Intensive Care Med* 2007; 33:1148–1154](http://paperpile.com/b/wn1dEh/qzS1R)