Supplemental table 1: Institutional Criteria – Readiness to Wean

Prerequisite for performing a spontaneous breathing trial (SBT).	
clinical criteria	• Ventilation > 24 h • Disappearance of indication for ventilation
respiratory criteria	• FiO2 ≤ 0. 4 • Oxygen saturation ≥ 90% • PEEP ≤ 8 cmH2O (> 1h) • AMV < 15l /min • AF < 35 / min
Rapid Shallow Breathing Index (RSBI) (breathing frequency divided by tidal volume in litres)	Goal is < 100-105 breaths / min/l RSBI can predict successful SBT with a sensitivity of 97% and a specificity of 65%
haemodynamic criteria	• no acute myocardial ischaemia, no cardiogenic shock • No catecholamines: (allowed: norepinephrine/adrenaline ≤ 0. 2 µg / kg KG /min, Enoximone ≤ 5 µg / kg KG /min or Dobutamine ≤ 5 µg / kg KG /min) • no new haemodynamically relevant arrhythmia
Criterion alertness	• RASS score 0 or – 1 • where applicable. GCS ≥ 8 in neurosurgical/neurological patients • Protective reflexes (coughing and swallowing) present
metabolic criteria	• Temperature < 38. 5 °C

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Supplemental table 2: Quality indicator (Weaning and other measures to prevent ventilator associated pneumonias (short: Weaning/VAP Bundle)) (Displayed are only items of the indicator relevant to weaning, for complete display see full version of the publication)

Name of the indicator	**Weaning and other measures to prevent ventilator associated pneumonias (short: Weaning/VAP Bundle)**
Dimension	Effectiveness and risk
Justification	Ventilator associated pneumonias are a large problem in intensive care medicine. Pathogens typically get into the subglottic respiratory tract via aspiration of nasopharyngeal colonization (micro aspiration). The quality indicator IV should result in the prevention and reduction of ventilator associated pneumonias. It is measured by two processes in daily routine care: a) Measures to reduce the length of ventilator support (including non-invasive ventilation and weaning) and b) Measures effective with this regard are: a) Weaning protocol/concept in combination with sedation goals. In every mechanically ventilated patient (controlled ventilation) a daily evaluation for weaning possibility should be performed. This has to be seen in the context of QI II. This represents a daily sedation goal and documentation and b) Measures to reduce the microaspiration of pathogenic agents.
Structure	Daily documentation of goals for ventilatory support /Weaning: yes/no and…
Process	Peer review
Population	All mechanically ventilated patients
Formula (process) QI IVa	Number of mechanically ventilated patients with daily documentation of a weaning trial (begin or ongoing) has been started / Total number of all mechanically ventilated patients x100
Type	Structure, process and outcome
Source of data	1. Structure: Query 2. Process: Morning round (Visitation) Check: NIV-indication yes/no (Patient file, PDMS, Peer Review), VAP-Bundle implemented 3. Outcome: Results of the KISS/SARI-ICU Surveillance (annual report)
Standard: Structure: yes/no Execution: yes/no	1. Structure: yes >95% 2. Process: >70% Number of positive answers 3. Missing values <20%
Explanation of the terminology	*Weaning trial:* Planned intention to disconnect the patient from ventilatory support by beginning a spontaneous breathing trial with one of the following methods: o T-piece o Pressure support ventilation (support pressure 7cmH2O o Continuous positive airway pressure of 5cmH2O (CPAP) o Synchronized intermittent mandatory ventilation (SIMV) is excluded o Non-invasive ventilation includes measures for ventilatory support without translaryngeal devices
Comments	In the view of the authors, it seems more practicable to define this indicator with patients on mechanical ventilation rather than days on mechanical ventilation, especially since weaning trials are not routinely detected by IT-systems and this also helps keeping the exclusion criteria. Measures for point 2, 4, 5 can be extracted from the patients file measures under point 3 should be defined in a standard be checked there. QI IVa: We recommend evaluation if daily trials have been attempted and if they were attempted in patients meeting inclusion criteria for such a trial.

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