Sleep alterations and deprivation are common in mechanically ventilated patients on the intensive care unit (ICU). However, there is scarce information on how this is associated with mechanical ventilation and outcomes. [1] We have therefore read with great interest the report on the effects of sleep alteration on weaning by Thille AW et al. [2] The authors have shown that atypical sleep is associated with longer weaning duration, but there are some key aspects to take into account in this regard:

Firstly, paroxysmal activity is frequent in unsedated patients, unresponsive to voice, but the clinical implications remain to be determined. [3] Secondly, noise and light are integral parts of any ICU and environmental noise has been shown to affect arousals and awakenings from sleep. [4] Noise and light levels could be monitored and standardised in future studies. Thirdly, information about bicarbonate levels would have
been informative, as it has a negative correlation with sleep efficacy, quality and weaning success. [5] Similarly, further information about patient-ventilator asynchrony or pre-existing sleep-disordered breathing are missing, which could have further confounded these findings. [6, 7] Lastly, the weaning duration was defined as the time elapsed between polysomnography (PSG) and extubation in this study. In this context, the length of stay in the ICU and mechanical ventilation prior to the recording of the PSG is important and table 1 indicates that the patient groups were not similar in this aspect, i.e. atypical sleep groups had a significantly longer duration of ICU stay, mechanical ventilation, cumulative dose and duration of sedation. Although the authors have evaluated the consciousness and delirium prior to the PSG and found no difference, we feel that comparing patients with similar ICU stay, mechanical ventilation duration and sedation would have given us better insight, as it would help to avoid a selection bias of patients in weaning failure. Both groups of patients did not receive continuous sedatives, but the potential implications of sedative (benzodiazepines, etc.) drugs used before weaning could be important to understand the observed sleep disturbance. [8]

Sleep alterations are a frequent observation in critically ill patients; an important question needs to address the real consequences and treatment of disturbed sleep in the ICU, [9] and this includes our understanding of whether they can resolve over time. The current study re-starts the discussion about a controversial hot topic in critical care medicine; yet, it is important to more precisely classify atypical sleep and clinical implications to direct future research.

References
1. Lauridsen SV, Tønnesen EK, Nibro HL. [There is a need for further studies exploring the sleep in patients during intensive care unit admission]. Ugeskr Laeger 2013;175(21):1488-91. Article in Danish.


