



Delirium, sleep/circadian rhythm and long-term cognition after critical illness.

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Sleep disruption is common and severe in the intensive care unit (ICU). Patients experience shortened total sleep time, frequent arousals, and severe reduction or loss of deep (i.e., slow wave sleep [SWS]) and REM sleep. In addition, critically ill patients experience circadian disruption including loss of normal melatonin amplitude and alignment. Patient outcome in the ICU is likely negatively impacted by poor sleep and circadian dysrhythmia. It is urgent that we improve understanding of ICU sleep and circadian disruption (ICU SCD). Given the multi-faceted nature of ICU SCD, interventions to promote sleep or circadian function tend to be complex or targeted to only one facet of ICU SCD. Challenges of disease definition and measures described above may at least partially explain failure to demonstrate sleep improvement in studies to date. In this talk we will discuss non-pharmacologic and pharmacologic treatments of ICU SCD. Further studies and discussions regarding the bidirectional interactions of ICU SCD and delirium and ICU SCD will be explored. Despite sleep disturbances improving over time, up to two-thirds (61%) of patients reported persistently poor sleep at 6 months follow-up. This has potential to impact long-term cognition for survivors of critical illness. Recent evidence of a relationship between sleep, circadian rhythm and cognition will be presented.