

Implementation of a Nurse-Driven Spontaneous Awakening Trial Protocol in a Cardiac Intensive Care Unit

In patients receiving mechanical ventilation, spontaneous awakening trials (SATs) reduce morbidity and mortality when paired with spontaneous breathing trials. However, SATs are not performed every day they are indicated and little is known about SAT protocol use in cardiac intensive care units (CICUs). The authors' objective was to draft and implement a nurse-driven SAT protocol modified for the CICU population with the goal of increasing the number of SATs performed.

- We performed a pre-post intervention retrospective cohort study of adult patients admitted to the CICU at Michigan Medicine who received at least 24 hours of invasive mechanical ventilation.
- The intervention was the implementation of an SAT protocol for all patients meeting the inclusion criteria. The protocol was developed by nurses, a clinical cardiology pharmacist, and physicians.
- When nurses had concerns about patient safety, discomfort, and asynchrony during SAT or concerns about possible self-extubation or aggressive behaviors, they were encouraged to use a rapid-taper approach that was outlined in the protocol.
- The primary outcome was the proportion of eligible days in which an SAT was performed, as defined by the protocol. Secondary outcomes included the proportion of Richmond Agitation-Sedation Scale minimum scores in the target range of 0 to -1, durations of continuous sedative infusion and mechanical ventilation, and in-hospital mortality.
- Implementation of a nurse-driven SAT protocol led to a significant increase in the number of SATs performed and a reduction in the duration of continuous sedative infusion. Protocol implementation was not associated with significant differences in duration of mechanical ventilation, mortality, or depth of sedation while receiving a sedative infusion.
- Our protocol is unique in 2 ways. First, it specifies 2 SAT contraindications that are relatively unique to the CICU: treatment of refractory ventricular tachycardia and sedation used during targeted temperature management. Second, it addresses nurses' concerns related to sedation interruption by using a rapid-taper approach to minimize sudden discontinuation and to possibly reduce adverse safety events.
- Implementation of a nurse-driven SAT protocol in our CICU increased the rate of performing SATs and reduced the duration of sedative infusion.
- The SAT protocol can be performed independently of direct physician oversight.
- We plan to continue to use this protocol at our institution, but further investigation is required to identify barriers to light sedation in the CICU. We plan to refine our protocol to address these barriers. **CCN**

Ketcham SW, Adie SK, Brummel K, Walker E, Prescott HC, Thomas MP. Implementation of a nurse-driven spontaneous awakening trial protocol in a cardiac intensive care unit. *Critical Care Nurse*. 2022;42(2):56-62.