Daily sedation interruption for critically ill patients does not improve outcomes

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For critically ill patients receiving mechanical ventilation, daily sedation interruption did not reduce the duration of mechanical ventilation or appear to offer any benefit to patients, and may have increased both sedation and analgesic use and nurse workload, according to a study appearing in *JAMA*. The study is being published early online to coincide with its presentation at the European Society of Intensive Care Medicine Annual Congress.

"Critically ill patients wean more quickly from mechanical ventilation, with lower risk of delirium, when clinicians use specific strategies to reduce excessive sedation, according to background information in the article. "Protocolized sedation and daily sedative interruption are 2 strategies to minimize sedation and reduce the duration of mechanical ventilation and intensive care unit (ICU) stay."

Sangeeta Mehta, M.D., of Mount Sinai Hospital and the University of Toronto, and colleagues conducted a study to examine whether mechanically ventilated adults managed with both protocolized sedation and daily sedation interruption would receive less sedation and have a shorter duration of mechanical ventilation than patients managed with protocolized sedation alone. The randomized controlled trial, which included 430 critically ill, mechanically ventilated adults, was conducted in 16 tertiary care medical and surgical ICUs in Canada and the United States between January 2008 and July 2011. Patients received continuous opioid or benzodiazepine infusions and random allocation to protocolized sedation (n = 209) (control) or to protocolized sedation plus

daily sedation interruption (n = 214). Using validated scales, nurses titrated infusions to achieve light sedation. For patients receiving daily interruption, nurses resumed infusions, if indicated, at half of previous doses. Patients were assessed for delirium and for readiness for unassisted breathing.

The median (midpoint) time to successful extubation (removal from mechanical ventilation) was 7 days in both groups. The researchers found that there were no significant between-group differences in ICU or hospital lengths of stay, hospital mortality, rates of unintentional device removal, delirium, ICU neuroimaging, tracheostomy, or organ dysfunction. Daily sedation interruption was associated with higher average daily doses of midazolam and fentanyl, and more daily boluses of benzodiazepines and opiates.

Overall, average Sedation-Agitation Scale scores per patient were similar in the 2 groups. However, nurse workload was significantly higher in the interruption group.

"In this multicenter randomized trial, we found that among mechanically ventilated patients receiving continuous sedation, the combined use of protocolized sedation and daily sedative interruption did not improve on the clinical outcomes observed with protocolized sedation alone. Patients in the daily interruption group received more opioids and benzodiazepines, and self-assessed nursing workload was higher for patients in the daily interruption group than the control group; however, these findings are of uncertain clinical importance," the authors write.

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