

To prevent delirium, increase mobility, connection and sleep

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Accelerated cognitive decline in patients with and without existing dementia is one of the most disturbing outcomes of hospitalizations for older adults, affecting at least 2.6 million Americans every year.

But the condition, known as [delirium](#), is believed to be preventable in up

to 40 percent of hospital-acquired cases, and researchers at UC San Francisco wanted to see if simple tweaks, like avoiding nighttime interruptions to promote sleep, nixing certain prescription drugs, and promoting exercise and social engagement, could decrease its incidence.

In a June 8, 2021, study in the *Journal of Hospital Medicine*, the researchers followed approximately 22,700 inpatients aged 50 and over who had been admitted to and discharged from the same non-[intensive care unit](#) at UCSF Medical Center. Half of the [patients](#) were admitted after the hospital had implemented a comprehensive delirium prevention and treatment care pathway, which included screening on admission as well as during each 12-hour nursing shift.

Since the screening did not take place prior to the study, the researchers could not confirm the interventions' impact on delirium prevention. However, data comparing outcomes pre- and post-intervention showed an overall 2 percent drop in length of hospital stay. Remarkably, for the approximate 20 percent of study participants in the medicine unit, where patients require less specialized care, the researchers found a 9 percent drop in length of stay, together with a 7 percent reduction in cost savings, for an average of \$1,237 less per hospitalization.

Some specialty patients less likely to respond to interventions

The difference in impact between patients in the medicine unit and those in specialty care can be explained by the fact that the former are more likely to be [elderly patients](#) who develop delirium due to sleep deprivation, restraints and certain drugs, said senior author Vanja Douglas, MD, of the UCSF Department of Neurology and the Weill Institute for Neurosciences. "Other patients, such as neurology and neurosurgery patients, are delirious due to factors like recent brain surgery, seizures or encephalitis, and are less likely to respond to the non-

pharmacologic interventions that were part of the delirium care pathway."

Interventions for patients of all specialties also led to a 14 percent reduction in the number of 30-day readmissions, a sign that "patients at risk of delirium may not have developed delirium or that interventions reduced its duration," said first author Sara LaHue, MD, also from the UCSF Department of Neurology and the Weill Institute for Neurosciences.

The hallmarks of delirium include confused thinking, restlessness and agitation, together with reduced awareness of the environment and changes in attention ranging from confusion to withdrawal. Unlike dementia, which develops gradually, delirium starts rapidly and may be triggered by acute illness, as well as by hospitalization. Patients over 75 with hearing or vision impairments, who have been living in a nursing home or assisted living facility are at higher risk.

"Compared with non-delirious patients, delirious patients are more likely to consume more hospital staff time and life-support resources, stay longer and develop in-hospital complications," said LaHue.

The researchers found that 12.6 percent of the patients, whose average age was 67, had delirium on admission, and 5.6 percent developed the condition during their stay. The patients' risk for delirium was gauged by age, illness severity, orientation and ability to perform a simple word or math test. For patients at high risk, the researchers reviewed their medications and eliminated or substituted those that were "deliriogenic." They also revised nighttime routines to avoid interruptions, prescribed melatonin as a sleep aid, and in some cases scheduled consults with occupational and speech/language therapists to help with mobility and cognitive stimulation.

Bladder catheters, restraints linked to more delirium

Of note, bladder catheters were removed, an initiative that is a cornerstone of delirium prevention, according to LaHue. "Any kind of tether, like a bladder catheter or physical restraint, limits mobility and adds to the risk of disorientation," she said.

Similarly, the use of physical restraints was decreased in all study patients, from 17.1 restraint days per 1,000 patient days in the first three months of the intervention to 11 restraint days per 1,000 patient days in the last three months of the 12-month intervention. "As a result, one might expect a need for more frequent safety attendant use and an associated cost increase," said Douglas. "However, we found that safety attendant use decreased significantly with the intervention, in parallel to reduced restraint use."

Additionally, they recommended that nursing staff walk with higher-risk patients three times a day and engage in conversation, assist them with getting out of bed to eat their meals, ensure water was within reach at all times, and reinforce awareness of time by writing the date on the board in their room, and by lowering shades at night and opening them in the day.

COVID safety measures may mean future 'epidemic of cognitive impairment'

While the study was conducted prior to the pandemic, LaHue has since noted that patients hospitalized with COVID-19 join the ranks of those at high risk for delirium. In her perspective published last year, LaHue states that not only does COVID-19 lead to a "heightened inflammatory state" that raises risk, but aggressive efforts to prevent transmission of the virus in hospitals exacerbate those risks. These include less

engagement with PPE-clad clinicians and bans on visitors, who may have played an essential role in reducing delirium risk by "encouraging physical and cognitive stimulation, protecting their loved ones from falls and advocating for their basic needs."

LaHue points to a study that found 9.5 percent of cognitively normal adults who developed delirium following surgery were diagnosed with mild cognitive impairment or dementia within one year, indicating that long-term effects may be at least partially irreversible even in those without existing dementia. For hospitals, efforts to curtail the spread of the virus may have resulted in collateral damage: an epidemic of a different nature.

"In addition to the physical and psychological challenges that COVID-19 survivors face," she said, "a surge in delirium during this pandemic may lead to a delayed epidemic of cognitive impairment."

More information: Andrea Yevchak Sillner et al, Ultrabrief Screens for Detecting Delirium in Postoperative Cognitively Intact Older Adults, *Journal of Hospital Medicine* (2020). [DOI: 10.12788/jhm.3410](https://doi.org/10.12788/jhm.3410)

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