

# Patients who survive sepsis are more than 3 times as likely to have cognitive problems

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Older adults who survive severe sepsis are at higher risk for long-term cognitive impairment and physical limitations than those hospitalized for other reasons, according to researchers from the University of Michigan Health System.

Research to be published Oct. 27 in the *Journal of the American Medical Association* showed that 60 percent of hospitalizations for severe sepsis were associated with worsened cognitive and physical function among surviving older adults. The odds of acquiring moderate to severe cognitive impairment were 3.3 times higher following an episode of sepsis than for other hospitalizations.

Severe sepsis also was associated with greater risk for the development of new functional limitations following hospitalization, says lead author, Theodore (Jack) Iwashyna, M.D., Ph.D., assistant professor of internal medicine at U-M.

Among patients who had no limitations before sepsis, more than 40% developed trouble with walking. Nearly 1 in 5 developed new problems with shopping or preparing a meal. Patients often developed new problems with such basic things as bathing and toileting themselves.

"We used to think of sepsis as just a medical emergency, an infection that you get sick with and then recover," said Iwashyna, "But we discovered a significant number of people face years of problems afterwards."

"Those problems are bigger and more common than we expected. Most older Americans suffer real brain and body problems. We need new treatments, not just for the sepsis infection, but to prevent these new disabilities afterwards."

Sepsis is an overwhelming infection that can result in failure of multiple organ systems. The initial infections are often common problems, such as pneumonia or a urinary tract infection. About 40 percent of those with severe sepsis die from the infection.

Anyone can get sepsis, but older people and those with weakened immune systems are most vulnerable. Sepsis is probably the most common cause of critical illness in the United States.

The best data available are from the 1990s, when it was estimated that 750,000 people each year were diagnosed with sepsis. Researchers believe that number has doubled each decade.

"These new data show a majority of older patients suffer with real life-changing burdens after beating sepsis. This is an underrecognized public health problem with major implications for patients, families and the health care system," Iwashyna says.

"We need to make sure families have the resources they need to care for survivors of sepsis when they go home. It's not enough just to get them through the acute episode. We need to start preparing them for the years of problems they may have afterwards."

"This research underscores the need for physicians who care for older adults to focus early on preventing infections that can lead to sepsis," says study co-author Kenneth M. Langa, M.D., Ph.D., a core investigator for the Ann Arbor Veterans Administration Health Services Research and Development Service's Center of Excellence and professor of

internal medicine at U-M.

Older patients need to get their flu and pneumonia vaccines in order to decrease their risk for infections, and physicians need to be aware of the long-term risk for cognitive and physical disabilities that many patients may face, Langa said.

"In contrast to Alzheimer's disease and other forms of dementia, the cognitive impairment associated with sepsis is likely at least partially preventable through better acute care of the sepsis episode and better rehabilitation efforts afterwards," Langa says.

"We need to start working early – from the beginning of the hospitalization – to make sure patients do not develop new disability. There are innovative new ways to care for people that might help prevent this disability," Iwashyna says.

The research was supported primarily by the National Institute on Aging and the National Heart, Lung and Blood Institute.

The researchers used data from the NIA-supported Health and Retirement Study , a long-term study that collects information on the health, economic, and social factors influencing the health and well-being of a nationally representative sample Americans over age 50.

"This research makes clearer how acute medical problems in older adults may have an important lasting impact and contribute to a downward trajectory in both cognitive and physical function," says Richard Suzman, Ph.D., director of the NIA's Division of Behavioral and Social Research, which supports the HRS.

"The unique nature of the rich HRS dataset that links both survey data and Medicare administrative data made this innovative study possible

and will also facilitate future studies of the long-term impact of critical illness on older adults and the family members that care for them."

**More information:** *Journal of the American Medical Association*, 2010; 304(16): 1787-1794.

Provided by University of Michigan Health System

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