

# Antibiotics improve survival but not comfort for terminal dementia patients with pneumonia

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A new study by scientists at the Institute for Aging Research of Hebrew SeniorLife says the use of antibiotics to treat pneumonia in patients with terminal dementia presents a "doubled-edged" sword for health-care providers and family members, finding that antibiotics may prolong survival for these patients, but do not improve their comfort.

"Survival was prolonged among patients who received antibiotics compared to those who were untreated," says lead author Jane L. Givens, M.D., M.S.C.E., an assistant scientist at the Institute for Aging Research. "At the same time, we found that antibiotics did not improve the comfort of these patients and that more aggressive forms of treatment may cause greater levels of discomfort."

A recent Institute study ([New England Journal of Medicine](#), Oct. 15, 2009) was the first to rigorously describe the clinical course of advanced [dementia](#), finding that the disease's pattern of distressing symptoms is similar to those experienced by patients dying of more commonly recognized terminal conditions such as cancer.

An estimated 5 million Americans have dementia. Infections, particularly [pneumonia](#), are common in advanced dementia, especially toward the end of life, with nearly one in four decisions facing families of nursing home patients concerning the treatment of these infections. These decisions, says Dr. Givens, are ideally guided by the goals of care,

which for some may be prolonging life and for others may be comfort. Families and caregivers, however, often do not have sufficient information to assess the effectiveness of treatment options.

The study, published in the July 12 issue of the *Archives of Internal Medicine*, analyzed data from 323 nursing home residents with terminal dementia in 22 Boston area facilities as part of the "Choices, Attitudes and Strategies for Care of Advanced Dementia at End-of-Life" (CASCADE) study. Each resident was followed for up to 18 months or until their death. Antibiotic treatment for each suspected pneumonia episode was characterized as none, oral only, intramuscular injection only, or either intravenous treatment or hospitalization. A majority of patients (55%) received oral antibiotics, while only 9 percent reported taking none. Fifteen percent received intramuscular injections and 20 percent received intravenous antibiotics or were hospitalized. Survival and comfort were assessed using common measurement scales.

According to the study, antibiotic treatment was associated with longer survival after suspected pneumonia episodes compared to no treatment. Comfort, however, was highest among those not treated with antibiotics and was progressively lower as the aggressiveness of care increased (i.e., those taking either intravenous or intramuscular antibiotics were in greater discomfort).

"Our findings have important implications for clinical practice," says Dr. Givens, an instructor in medicine at Harvard Medical School. "The management of infections, especially pneumonia, is one of the common decisions confronting families and practitioners. For these patients, our results indicate that antibiotic treatment for suspected [pneumonia](#) may be a double-edged sword, as it is associated with both survival and discomfort. Our observations may help families and providers align the potential advantages and disadvantages of antibiotic treatment with their goals of care."

When the primary goal of treatment is survival, Dr. Givens says providers and families should consider limiting treatment to oral antibiotics (or intramuscular injections if oral administration is not possible) because they appear to achieve the same survival benefit as more aggressive forms of [antibiotic treatment](#), but with potentially fewer complications. When the goal is comfort, she recommends that [antibiotics](#) be withheld and that palliative care, also called comfort care, be provided.

Provided by Hebrew SeniorLife Institute for Aging Research

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