

IV treatment may lower risk of dying from bacterial meningitis

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New research shows that an intravenous (IV) treatment may cut a person's risk of dying from bacterial meningitis. The research is published in the September 29, 2010, online issue of *Neurology*, the medical journal of the American Academy of Neurology. The treatment is called dexamethasone.

"Using this treatment in people infected with meningitis has been under debate because in a few large studies it was shown to be ineffective," said study author Diederik van de Beek, MD, PhD, with the Academic Medical Center, University of Amsterdam in the Netherlands and a member of the American Academy of Neurology. "Our results provide valuable evidence suggesting that dexamethasone is effective in adult cases of [bacterial meningitis](#) and should continue to be used."

Bacterial meningitis is a condition that causes membranes in the brain and [spinal cord](#) to become inflamed. The disease can be deadly, or result in [hearing loss](#), [brain damage](#) and learning disabilities. Pneumococcal meningitis is the most common and severe form of bacterial meningitis. It is estimated that about 25 to 30 percent of people die from the disease.

For the study, researchers evaluated 357 Dutch people age 16 or older with pneumococcal meningitis between 2006 and 2009. Of those, 84 percent were given dexamethasone through an IV with or before the first dose of antibiotics. The results were compared to an earlier study of 352 people treated for bacterial meningitis in 1998-2002, before Netherlands guidelines recommended using dexamethasone. In that study, only three

percent of the people were given dexamethasone.

In both studies, participants were assessed on a rating scale of one to five. A score of one was given for death, two for coma, three for severe disability, four for moderate disability and five for mild or no disability. In the later study, 39 percent had an "unfavorable outcome," or a score of four or lower on the scale, compared to 50 percent in the earlier study group.

The study found that the rate of death for those who were given dexamethasone was 10 percent lower than in those in early study group. The rates of hearing loss were also nearly 10 percent lower for those in the later study group.

Symptoms of bacterial meningitis are neck stiffness, fever and an altered mental state. These are also symptoms of viral meningitis, which is more common, much less serious and was not the focus of this study. Bacterial meningitis is a medical emergency and is diagnosed by culturing bacteria from the spinal fluid or by observing changes in the spinal fluid which indicate the presence of bacteria. Bacterial meningitis must always be treated with [antibiotics](#) in addition to medications like [dexamethasone](#), which is a medication of the glucocorticosteroid class of drugs and may be used for bacterial meningitis.

Provided by American Academy of Neurology

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