



# Cochlear-Meningitis Vaccination

## What you should know

- The CDC and FDA, in partnership with state health departments, have recently completed an investigation that found children with cochlear implants have a higher chance of getting bacterial meningitis than children without cochlear implants. Some children who are candidates for cochlear implants may have factors that increase their risk of meningitis even before they get a cochlear implant. However, this investigation was not designed to determine the risk of meningitis in children who are candidates for cochlear implants but don't have them.
- Because people with cochlear implants are at increased risk for meningitis, CDC recommends that people with cochlear implants follow recommendations for pneumococcal vaccinations that apply to members of other groups at increased risk. Recommendations for the timing and type of pneumococcal vaccination vary with age and vaccination history and should be discussed with a health care provider.
- Recommendations for people with cochlear implants aged two years and older include the following:
  - Children who have cochlear implants, are aged 2 years and older, and have completed the pneumococcal conjugate vaccine (Prevnar®) series should receive one dose of the pneumococcal polysaccharide vaccine (Pneumovax® 23). If they have just received pneumococcal conjugate vaccine, they should wait at least two months before receiving pneumococcal polysaccharide vaccine.
  - Children who have cochlear implants are between 24 and 59 months of age, and have never received either pneumococcal conjugate vaccine or pneumococcal polysaccharide vaccine should receive two doses of pneumococcal conjugate vaccine two or more months apart and then receive one dose of pneumococcal polysaccharide vaccine at least two months later.
  - Persons who are aged 5 years and older with cochlear implants should receive one dose of pneumococcal polysaccharide vaccine.

## Additional facts

- Worldwide, there are over 90 known reports of people getting meningitis after getting a cochlear implant. This is out of approximately 60,000 people who have cochlear implants.
- Meningitis is an infection. The infection is in the fluid that surrounds the brain and spinal cord. There are two main types of meningitis, viral and bacterial. Bacterial meningitis is the most serious type. It is the type that has been reported in people with cochlear implants. Depending on the cause of the meningitis, the symptoms, treatment, and outcomes differ.
- Bacterial meningitis can be caused by several different kinds of bacteria. Four vaccines protect against most of these bacteria. The vaccines are:
  - 7-valent pneumococcal conjugate (Prevnar®) (PCV-7)
  - 23-valent pneumococcal polysaccharide (Pneumovax® 23) (PPV-23)
  - Haemophilus influenzae type b conjugate (Hib)
  - Quadrivalent A,C,Y,W-135 meningococcal polysaccharide (Menomune®).
- Meningitis in people with cochlear implants is most commonly caused by the bacteria Streptococcus pneumoniae (pneumococcus). Children with cochlear implants are more likely to get pneumococcal meningitis than children without cochlear implants.
- None of the children in the investigation had meningococcal meningitis caused by Neisseria meningitidis. There is no evidence that children with cochlear implants are more likely to get meningococcal meningitis than children without cochlear implants.



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