



Department of Health and Social Services
Joel Gilbertson, Commissioner

Division of Public Health
Doug Bruce, Director

Section of Epidemiology
John Middaugh, MD, Editor

3601 C Street, Suite 540, PO Box 240249, Anchorage, Alaska 99524-0249 (907) 269-8000
24-Hour Emergency Number 1-800-478-0084

http://www.epi.Alaska.gov

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Shortage of Pneumococcal Conjugate Vaccine (PCV7) Temporary Suspension of 4th Dose in Healthy Children

From 2001 through 2003 continuing shortages of pneumococcal conjugate vaccine (PCV7 or *Prevnar*TM) required the Section of Epidemiology repeatedly to revise recommendations for use of this vaccine.^{1,2,3} On February 13, 2004 the Centers for Disease Control and Prevention, in consultation with the American Academy of Family Physicians, the American Academy of Pediatrics, and the Advisory Committee on Immunization Practices, once again recommended restricting use of PCV7.⁴ These recommendations were made to help conserve vaccine and minimize the likelihood of shortages caused by production and supply problems at Wyeth Vaccines, the only supplier of the vaccine in the United States.

Southwest Alaska Regions Where Routine PCV7 Schedule May Be Utilized



What is the new PCV7 recommendation, and how will it be implemented in Alaska?

Effective immediately, the Section of Epidemiology recommends:

- Alaska healthcare providers should temporarily suspend routine administration of the **FOURTH** dose of PCV7 (a booster dose routinely given at 12-15 months of age) for **healthy children**. (Note: Any child ≤ 59 months of age who needs dose #1, #2, or #3 may be vaccinated per routine recommendations.)
- Providers should continue to administer the fourth dose to children at increased risk for severe disease and/or in certain geographic locations in Alaska, as described below.

Which children should continue to receive a fourth dose?

Children ≤ 59 Months of Age with High Risk Medical Conditions

Pneumococcal vaccine should be administered to all *high risk* children ≤ 59 months of age as recommended in the "routine" schedule (*i.e.*, at 2, 4, 6 and 12-15 months of age or age appropriate) issued by the ACIP.⁵ "High risk" children are those who are at increased risk for development of pneumococcal infection caused by an underlying medical condition:

- Children with **Sickle Cell Disease and other sickle cell hemoglobinopathies**, including hemoglobin SS, hemoglobin S-C, or hemoglobin S- β -thalassemia, or children who are functionally or anatomically **asplenic**;
- Children with **HIV infection**;
- Children who have **chronic disease**, including chronic cardiac and pulmonary disease (excluding asthma), diabetes mellitus, or CSF leak; and
- Children with **immunocompromising conditions**, including (a) malignancies (*e.g.*, leukemia, lymphoma, Hodgkin's disease); (b) chronic renal failure or nephrotic syndrome; (c) those children receiving immunosuppressive chemotherapy, including long-term systemic corticosteroids; and (d) those children who have received a solid organ transplant.

Healthy Children < 24 Months of Age in Bristol Bay and Yukon-Kuskokwim Regions

Studies in Alaska have shown that Alaska Native children < 24 months of age living in southwest Alaska (*i.e.*, YK Delta and Bristol Bay) have a considerably higher incidence of pneumococcal disease. **Because of their higher risk of disease, all children < 24 months of age residing in southwest Alaska may be vaccinated according to the routine schedule.**

For which children should a fourth dose (booster) be suspended?

Healthy infants and children < 24 months of age **in regions OTHER THAN Bristol Bay and Yukon-Kuskokwim Regions** should not be given a fourth (booster) dose at this time. Healthcare providers should move to a three-dose series of one dose at 2, 4, and 6 months of age.

Children for whom the fourth dose is deferred should receive PCV7 on their first visit after supplies return to normal. Providers are encouraged to flag patient charts and/or keep lists of patients who have had the fourth dose deferred. This practice will aid in identifying those children who should receive follow-up after the fourth dose is reinstated.

Is Use of PPV23 a Possible Option for Healthy Children 24- 59 Months of Age in ALL Alaska Regions?

Pneumococcal polysaccharide vaccine (PPV23) is licensed for use in persons 2 years of age and older. PPV23 is effective for prevention of invasive pneumococcal infection in children aged 2-5 years.⁶ Providers may consider administering PPV23 to healthy children aged 2-5 years until PCV7 supplies have returned to normal.

How long is this fourth dose suspension expected to last?

Wyeth Vaccines has advised CDC that supplies are likely to be limited through mid-summer or later. CDC estimates the temporary suspension of the fourth dose will help conserve more than 1 million doses of PCV7 by July 2004, making widespread or prolonged disruptions less likely. Updated information on the situation will be supplied in future issues of the *Bulletin*.

References:

- Pneumococcal Conjugate Vaccine (PCV7) Shortage – Revised Recommendations. *Bulletin* No. 13, October 3, 2001.
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- Notice to Readers. Limited Supply of Pneumococcal Conjugate Vaccine: Suspension of Recommendation for Fourth Dose. Centers for Disease Control and Prevention *MMWR*. 2004; 53(5): 108-9.
- Preventing Pneumococcal Disease Among Infants and Young Children; Recommendations of the Advisory Committee on Immunization Practices. Centers for Disease Control and Prevention *MMWR*. October 6, 2000, Vol. 49, No. RR-9.
- Fiore, AE, Levine OS, Elliott JA, Facklam RR, Butler JC. Pneumococcal Polysaccharide Vaccine Effectiveness among Preschool-age Children with Chronic Disease. *Emerg Infect Dis* 1999; 5: 828-831.