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Bulletin No. 18 August 7, 2002

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Continuing Shortage of Pneumococcal Conjugate Vaccine (PCV7) Leads to Revised Recommendations

Recently most U.S. vaccine shortages have begun to ease or disappear. However, pneumococcal conjugate vaccine (PCV7 or *Prevnar*TM) is expected to remain in short supply at least through the end of 2002.

In October 2001 the Section of Epidemiology recommended that PCV7 be deferred in children ≥ 24 months of age unless they had an underlying medical condition that placed them at higher risk of developing pneumococcal disease.¹ This recommendation allowed Alaska to maintain a small but steady supply of this vaccine until now. But, continued PCV7 shortages make it necessary to further restrict its use for only those at highest risk. Currently the Section of Epidemiology has no PCV7 in stock, and the anticipated arrival date of our next shipment is uncertain. PCV7 orders from Alaska providers will be held on backorder and filled (either in full or in part) when vaccine is available.

To provide guidance on prioritization of PCV7 for children at highest risk of infection, the Section of Epidemiology considered recommendations from the Advisory Committee on Immunization Practices (ACIP) and studies of the epidemiology of invasive pneumococcal disease in Alaska.^{2,3,4}

Effective immediately, the Section of Epidemiology recommends the following schedule for use of PCV7 in infants and children in Alaska.

Recommendations for 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.

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

Studies in Alaska have shown that Alaska Native children <2 years 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 <2 years of age residing in southwest Alaska may be vaccinated according to the routine schedule.**

Southwest Alaska Regions Where Routine PCV7 Schedule May Be Utilized



Recommendations for Healthy Children <24 Months of Age in Regions OTHER THAN Bristol Bay and Yukon-Kuskokwim Regions

Healthy infants and children <24 months of age should receive a decreased number of PCV7 doses on the basis of the age at which vaccination is initiated, as shown below.

Recommendations for PCV7 Use Among Healthy Children in Alaska Regions Other than Bristol Bay and Yukon-Kuskokwim

Age at 1 st vaccination	Recommendation
≤ 6 mos	2 doses at 2-month interval in 1 st 6 months of life (defer 3 rd and 4 th doses)
7-11 mos	2 doses at 2-month interval (defer 3 rd dose)
12-23 mos	1 dose (defer 2 nd dose)
≥ 24 mos	No vaccination with PCV7

Additional Option for Use of PPV23 in 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.

References:

1. Pneumococcal Conjugate Vaccine (PCV7) Shortage - Revised Recommendations. *Epidemiology Bulletin* No. 13, October 3, 2001.
2. Notice to Readers: Updated Recommendations on the Use of Pneumococcal Conjugate Vaccine in a Setting of Vaccine Shortage. Centers for Disease Control and Prevention *MMWR*. December 21, 2001, Vol. 50, No.50:1140-2.
3. Davidson M, Parkinson AJ, Bulkow LR, et al. The Epidemiology of Invasive Pneumococcal Disease in Alaska, 1986-90 - Ethnic Differences and Opportunities for Prevention. *J Infect Dis* 1994;170:368-76.

4. Rudolph KM, Parkinson AJ, Reasonover AL, et al. Serotype Distribution and Antibiotic Resistance Patterns of Invasive Isolates of Streptococcus Pneumoniae: Alaska, 1991-1998. *J Infect Dis* 2000;182:490-6.
5. 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.
6. 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.