

Sickle Selections

a quarterly newsletter from the University of Rochester Sickle Cell Program

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New Pneumococcal Vaccine (Prevnar) Indicated for Young Children with Sickle Cell Disease

Invasive pneumococcal disease is a significant cause of morbidity and mortality among infants and young children with sickle cell disease. At highest risk are children under two years of age. Penicillin prophylaxis beginning at age 2 months, and administration of a 23-valent polysaccharide vaccine (23PS) at age two and again in 3 to 5 years, have reduced, but not eliminated the risk of invasive pneumococcal disease for children with sickle cell disease. Unfortunately 23PS is generally ineffective under the age of two because the polysaccharide vaccine depends on a B cell based response that does not develop until later.

A new pneumococcal vaccine Prevnar (PCV7), recently approved by the FDA and recommended for universal use in children less than 23 months, is indicated for children up to age 59 months at high risk of invasive pneu-

mococcal disease, including sickle cell disease. There are approximately 90 different serotypes of pneumococcal bacteria, with about 25 percent of those accounting for 90 percent of all pneumococcal disease. **Seven serotypes account for 80 percent of invasive disease in the United States. Prevnar contains these seven serotypes.** Studies in both children with and without sickle cell disease have shown Prevnar to be highly effective in children under two years of age. Prevnar is a heptavalent pneumococcal conjugate vaccine, prompting a vigorous T-cell based response. This component of a child's immune system is developed and active in children by about two months of age.

Prevnar dosing recommendations for children 59 months of age or less with sickle cell disease are noted on Table I.

Table I Prevnar (PCV7) dosing recommendations for children 59 months of age or less with sickle cell disease

Age	Previous Doses	Recommendations		
≤23 mo	None	PCV7: <u>Age at first dose</u>	<u>Primary Series</u>	<u>Booster Dose*</u>
		2-6 mo	3 doses, 6-8 wks apart	1 dose at 12-15 mo of age
		7-11 mo	2 doses, 6-8 wks apart	1 dose at 12-15 mo of age
		12-23 mo	2 doses, 6-8 wks apart	
>24 mo	1 dose			
24-59 mo	4 doses of PCV7	1 dose of 23PS vaccine at 24 mo, at least 6-8 wk after last dose of PCV7 1 dose of 23PS vaccine, 3-5 y after the first dose of 23PS vaccine		
24-59 mo	1-3 doses of PCV7	1 dose of PCV7 1 dose of 23PS vaccine, 6-8 wk after last dose of PCV7 1 dose of 23PS vaccine, 3-5 y after the first dose of 23PS vaccine		
24-59 mo	1 dose of 23PS	2 doses of PCV7, 6-8 wks apart, beginning at least 6-8 wk after last dose of 23PS vaccine 1 dose of 23PS vaccine, 3-5 y after the first dose of 23PS vaccine		
24-59 mo	None	2 doses of PCV7, 6-8 wks apart 1 dose of 23PS vaccine, 6-8 wk after the last dose of PCV7 1 dose of 23PS vaccine, 3-5 y after the first dose of 23PS vaccine		

* Booster doses to be given at least 6 to 8 weeks after the final dose of the primary series

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Strong Sickle
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Offers Help

Regarding treatment contact:

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Regarding newborn screening and genetic counseling, contact:

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