

anemia and to reduce the viscosity of the sickled blood; and (6) antibiotics to treat any existing infection.

Administration of pneumococcal, *Haemophilus influenzae* and meningococcal vaccines is recommended for these children because of their susceptibility to infection as a result of functional asplenia. In addition to routine immunizations, children with SCD should receive a yearly influenza vaccination (see Immunizations, [Chapter 7](#)). Oral penicillin prophylaxis is recommended by 2 months old to reduce the chance of pneumococcal sepsis (see [Translating Evidence into Practice](#) box).

Translating Evidence Into Practice

Sickle Cell Anemia and Penicillin Prophylaxis

Ask the Question

PICOT Question

In children with **sickle cell anemia** (SCA), does prophylaxis with penicillin reduce the risk of pneumococcal infection?

Search for the Evidence

Search Strategies

Search selection criteria included English-language publications within the past 25 years, research-based articles (level 3 or lower), and child populations.

Databases Used

PubMed, Cochrane Collaboration, MD Consult

Critically Analyze the Evidence

- [Hirst and Owusu-Ofori \(2014\)](#) conducted an updated systematic Cochrane review of three trials that showed a reduced rate of infection in children with **sickle cell disease** (SCD) homozygous sickle cell disease (HgbSS or HgbS β 0Thal) receiving prophylactic penicillin. Two trials looked at whether treatment was effective. The third trial followed from one of the early trials and looked at when it was safe to stop treatment. Adverse drug effects were rare and minor. Penicillin given prophylactically significantly