

given to children 15 months old or older who have not been previously vaccinated ([American Academy of Pediatrics, 2013](#)).

When possible, the Hib conjugate vaccine used at the first vaccination should be used for all subsequent vaccinations in the primary series. All Hib vaccines are administered by intramuscular injection using a separate syringe and at a site separate from any concurrent vaccinations.

Nursing Alert

The use of meningococcal and diphtheria proteins in combination vaccines does not mean the child has received adequate immunization for meningococcal or diphtheria illnesses; the child must be given the appropriate vaccine for that specific disease.

Varicella

Administration of the cell-free live-attenuated varicella vaccine is recommended for any susceptible child (one who lacks proof of varicella vaccination or has a reliable history of varicella infection). A single dose of 0.5 ml should be given by subcutaneous injection. The first dose of varicella vaccine is recommended for children 12 to 15 months old, and to ensure adequate protection, a second varicella vaccine is recommended for children 4 to 6 years old. The second varicella vaccine may be administered before 4 years old as long as a period of 3 months occurs between the first and second doses. Children 13 years old or older who are susceptible should receive two doses administered at least 4 weeks apart. Children in the same age-group (13 to 18 years old) who have received only one previous varicella vaccine should receive a second varicella vaccine. The two-dose regimen was adopted to protect children who did not have adequate protection with one dose, not because of waning immunity to the vaccine ([American Academy of Pediatrics, 2015](#)). The combination vaccine MMRV (ProQuad) is licensed for use in children 12 months old to 12 years old (see discussion under [Measles](#)).

According to the [American Academy of Pediatrics \(2015\)](#), children who have received two doses of the varicella vaccine are one third less likely to have breakthrough illness in the first 10 years of immunization in comparison with those who have received