

## Immunization Quiz Answers

- 1) c: Answers a through e are the vaccination schedule for dTaP in chronologic order.
- 2) d: The last childhood vaccine is given at age 4-6 years- boosters are needed every 10 for non-tetanus-prone wounds and every 5 for tetanus-prone wounds (ie soil contamination, bite wounds with crush injury). Many teens will remember getting a vaccine around 11 or 12 yrs and insist it was tetanus. In most cases, it was probably their Hep B series or MMR booster, since 11 would be an odd time to give a tetanus booster, but the recommended time to give Hep B to someone not immunized in infancy.
- 3) 5-20% chance: Vaccination is thought to confer 80-95% protection against Pertussis. Immunity is not lifelong, and many older children and adults can harbor it with seemingly benign upper respiratory infections.
- 4) 5-12 days post vaccination: Up to 15% of recipients can be expected to become febrile 5-12 days post vaccination due to either the measles or rubella component of the vaccine.
- 5) a: 5-15% teenaged girls can experience arthritis or arthralgias after the vaccination, which is generally given as a booster at age 11-12 years. Rashes can occur, but generally not vesicular. The MMR is a subcutaneous vaccine, making muscle hematomas unlikely.
- 6) Anyone over age 6 months: Children under 3 yrs get a split dose the first time, so if you vaccinate these kids in your ED, send them to their PMD for the second half in a month
- 7) Yes: Following vaccination, it is possible to get a varicella-like rash at the vaccine site or over the body, as a vaccine reaction. The efficacy is about 85%, so some immunized children can get varicella infections at any time, although usually these outbreaks are much more mild than the native disease. Vesicles from both vaccine reactions and post-vaccination infections are contagious.
- 8) Yes: Both Respi-gam (the old IV RSV-IVIG) and Synagis (the new IM palivizumab) are used as prophylaxis for high-risk populations to prevent RSV. They seem to decrease hospitalizations from RSV by approximately 50% (from 10-18% without treatment to 4.8-8% with treatment). In children who are hospitalized, their length of stay is also reduced by 50%. Therefore, these measures, though expensive, are helpful, but don't completely prevent RSV. Its also important to note that certain high risk children, like those with congenital heart disease in the early studies.
- 9) Refer to the Baraff article in Annals of Emergency Medicine, December 2000 for a complete review of the current fever protocol. The literature on this is not out yet, but 2 doses of Prevnar are thought to be 60% protective, and 3 doses 80% protective against invasive pneumococcal disease. If this proves to be true, assuming a 3% background rate

of bacteremia, a 6% progression to meningitis, and that 90% of bacteremia is due to strep pneumonia, a well-appearing febrile child has just under a 1 in 2000 risk of developing a serious complication from bacteremia. There has been a recent Prevnar shortage, though, so many patients are not fully immunized with it.