VACCINE TIMING AND SPACING .WHAT LIES BENEATH?

Abdou Deyab, MS, Alexandria University, Egypt
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Abstract

Vaccines are generally recommended for members of the youngest age group at risk for experiencing the disease for which vaccine efficacy and safety have been demonstrated. (*1*) Recommendations for the age at which vaccines are administered are influenced by age-specific risks for disease, age-specific risks for complications, age-specific responses to vaccination, and potential interference with the immune response by passively transferred maternal antibodies. Simultaneously administering all vaccines for which a person is eligible at the time of a visit increases the probability that a child, adolescent, or adult will be vaccinated fully by the appropriate age. (*1*) Vaccination providers should administer vaccines as close to the appropriate age and recommended intervals as possible. Doses administered too close together or at too young an age can lead to a suboptimal immune response. However, intervals between doses that are longer than recommended typically do not reduce final antibody concentrations, although protection might not be attained until the recommended number of doses has been administered.(*2*) With 2 exceptions, simultaneously administering the most widely used live and inactivated vaccines has produced seroconversion rates, and rates for adverse reactions similar to those observed when the vaccines are administered separately. (3) The 2 exceptions: PCV13 should be administered first and MenACWY-D 4 weeks later. And separation of doses between PCV13 and PPSV23 will be 6-12 months recommended for non-high risk, 8 week minimum for high risk if PCV13 is given first(3,4,5).With these two exceptions, any inactivated vaccine can be administered either simultaneously or at any time before or after a different inactivated vaccine or live vaccine. (6)The oral vaccines Ty21a typhoid vaccine and rotavirus can be administered simultaneously with or at any interval before or after other live vaccines (injectable or intranasal) if indicated (1).Two or more injectable or nasally administered live vaccines not administered on the same day should be separated by at least 4 weeks to minimize the potential risk for interference. (7)Inactivated vaccines and toxoids can be administered either simultaneously with or at any interval before or after receipt of an antibody-containing product. The vaccine or toxoid and antibody preparation should be administered at different sites using the standard recommended dose. (8)Ty21a typhoid, yellow fever, LAIV, and rotavirus vaccines may be administered at any time before, concurrent with, or after administration of any antibody-containing preparation such as immune globulin, hyperimmune globulin, or intravenous immune globulin (IGIV). (9)Antibody-containing blood or blood products (e.g. immune globulin, hyperimmune globulin, and IGIV) can inhibit the immune response to measles, rubella, mumps and varicella vaccines for ≥3 months. Therefore, these vaccines should be delayed until the passive antibody has degraded. (8)

Publications:

1. CDC. Recommendation of the Advisory Committee on Immunization Practices (ACIP) for use of quadrivalent meningococcal conjugate vaccine (MenACWY-D) among children aged 9 through 23 months at increased risk for invasive meningococcal disease. *MMWR Morb Mortal Wkly Rep.* 2011;60(40):1391-1392.

2. Atkinson WL, Pickering LK, Schwartz B, Weniger BG, Iskander JK, Watson JC. General recommendations on immunization. Recommendations of the Advisory Committee on Immunization Practices (ACIP) and the American Academy of Family Physicians (AAFP). *MMWR Recomm Rep.* 2002;51(RR-2):1-35.
3. King GE, Hadler SC. Simultaneous administration of childhood vaccines: an important public health policy that is safe and efficacious. *Pediatr Infect Dis J.* 1994;13(5):394-407
4. CDC. Recommendation of the Advisory Committee on Immunization Practices (ACIP) for use of quadrivalent meningococcal conjugate vaccine (MenACWY-D) among children aged 9 through 23 months at increased risk for invasive meningococcal disease. *MMWR Morb Mortal Wkly Rep.* 2011;60(40):1391-1392.
5. Atkinson WL, Pickering LK, Schwartz B, Weniger BG, Iskander JK, Watson JC. General recommendations on immunization. Recommendations of the Advisory Committee on Immunization Practices (ACIP) and the American Academy of Family Physicians (AAFP). *MMWR Recomm Rep.* 2002;51(RR-2):1-35.
6. King GE, Hadler SC. Simultaneous administration of childhood vaccines: an important public health policy that is safe and efficacious. *Pediatr Infect Dis J.* 1994;13(5):394-407.
7. Kroger AT, Sumaya CV, Pickering LK, Atkinson WL. General recommendations on immunization: recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR Recomm Rep.* 2011:1-60.
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Biography

Abdou Deyab is belongs to Egypt. He has his expertise in evaluation and passion in improving the health and wellbeing. He comes with over 15 years of experience in the practice and research work of general pediatrics and pediatric haematology oncology in Egypt, Kuwait and Oman. He held the position of specialist pediatrician.

Email:
asd.pediatric@yahoo.com