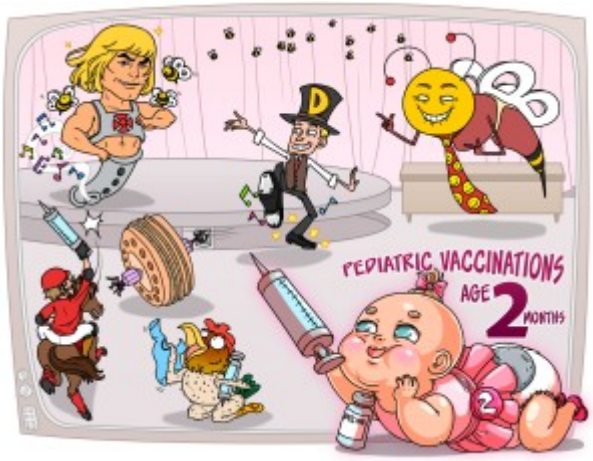
Pediatric Vaccinations - Age 2 Months

Vaccinations are a type of primary prevention, meaning that their goal is to decrease the overall incidence of disease in the population. A 2-month old infant should receive a total of 6 vaccinations: their 2nd dose of Hepatitis B should be given in the 1st or 2nd months of life (1st is given at birth), and their 1st dose of the rotavirus, diphtheria, tetanus, and acellular pertussis (DTaP), haemophilus influenzae type B (HiB), pneumococcal conjugate (PCV13), and inactivated poliovirus (IPV) vaccinations. Many of these vaccines are available in a combination to decrease the overall number of shots given. General contraindications to all vaccinations include serious (anaphylactic) allergic reaction to any vaccine component or previous dose of the particular vaccination and those with severe immunodeficiency. Live vaccines (MMR, varicella, yellow fever, nasal influenza, oral rotavirus) should not be given to immunosuppressed or pregnant patients.



PLAY PICMONIC

2 B DR HIP

Hepatitis B

Happy-tie Liver Bee

Hepatitis B virus (HBV) is an enveloped DNA virus in the Hepadnavirus family that has a surface antigen (HBsAg), and an inner nucleocapsid containing hepatitis B core antigen (HBcAg). The HBV vaccine (HepB) is a recombinant subunit vaccination targeting the HBsAg surface antigen, that is created in yeast cells (therefore contraindicated in patients with yeast allergies). Three doses are needed if the monovalent vaccine is used, however 4 doses are needed if the combination with DTaP/IPV is used. It is given intramuscularly (IM), and is effective at preventing hepatitis B - related morbidity and mortality; including infant fulminant hepatitis, primary liver cancer, and end stage liver disease. First dose should be given soon after birth, 2nd dose at 2 months of age and the 3rd dose between 6 and 18 months of age if the mother is HBsAg-negative. An infant born to a HBsAg-positive mother should receive the 1st dose of HBV plus hepatitis B Ig at two different sites within 12 hours of birth and should receive all 3 doses by 6-months of age (treated same as exposure). All children and teens who have not been immunized should receive the series at any physician visit.

DTaP - Diphtheria Tetanus acellular Pertussis

DTaP-dancer

Diphtheria is an acute respiratory illness caused by Corynebacterium diphtheriae, and has a fatality rate of up to 20% among children < 5 yrs old. Tetanus is a spasmodic nervous system disorder caused by Clostridium tetani toxin. Bordetella pertussis causes an acute respiratory illness known as "whooping cough". The DTaP vaccine contains diphtheria and tetanus toxoids (inactivated toxins), and inactivated acellular pertussis. It is administered IM and the 1st of 5 total doses of DTap is recommended at the 2-month visit. Contraindications to immunization include encephalopathy without an identifiable cause within 7 days of a previous dose, or progressive neurologic disease such as infantile spasms or uncontrolled epilepsy. Pertussis booster (Tdap) vaccine is now recommended during adolescence, regardless of immunization status and is also recommended even if the patient has already had pertussis.

RV - Rotavirus

Rotor-virus

Rotavirus is a naked, double-stranded, linear RNA virus in the Reoviridae family, that is the most common cause of severe diarrhea in infants and young children. The Rotavirus vaccination is a live-attenuated vaccine that is given orally. There are two available formulations; RV1 is a human assortment requiring 2 doses, and RV5 is a human-bovine assortment requiring 3 doses. It is recommended that infants receive their 1st dose of the rotavirus vaccine at their 2-month visit.

HiB - Haemophilus Influenzae Type B

He-man in-flute (B) Bee

Prior to development of the vaccination, Hib was the most common cause of bacterial meningitis in children. It also frequently caused other serious disease including epiglottitis, pneumonia, septic arthritis, and bacteremia. The Hib vaccine consists of the type B capsular polysaccharide conjugated to a carrier protein. This conjugation strengthens the T cell dependent response to vaccination. As the vaccination only covers type B, it does not offer any protection against other types or nontypeable Haemophilus. It is administered intramuscularly. It is available in 3 or 4 dose preparations, with the 1st dose given at the 2-month visit.

Sign up for FREE at picmonic.com

IPV - Inactivated Polio Vaccine

Polio-player Syringe

There are two polio vaccines - inactivated poliovirus vaccine (IPV) and live attenuated poliovirus vaccine (OPV) - although OPV is no longer used in the U.S. it is still used in many parts of the world. IPV induces active immunity against poliovirus types 1, 2, and 3. IPV is available alone and in combination with other pediatric vaccines. It is administered IM or subcutaneously, and the 1st of 4 doses is given at 2 months of age. Any child up to 18 years of age should receive all doses, if behind. IPV is contraindicated in pregnancy or those with a pregnant female at home.

PCV - Pneumococcal

Nude-cock Syringe

PCV is derived from a capsular polysaccharide, which allows for type-specific antibody killing. Polysaccharide vaccines were found to have poor efficacy in children <2 year old, however conjugation of the polysaccharide to immunogenic non-pneumococcal carrier proteins elicits a T cell-dependent memory response that is effective in infants. The Pneumococcal conjugate vaccine (PCV13) contains purified polysaccharides of 13 serotypes conjugated to a diphtheria protein. PCV13 is given in 4 doses, with the first being given at the 2-month visit. There must be a minimum of 4 weeks between the first 3 doses, and 8 weeks between the 3rd and last dose. The 23-valent pneumococcal polysaccharide vaccine (PS23) is given to provide additional protection to the PCV13 in some high-risk children (e.g. functional or anatomic asplenia) whom are >2 years old.

Sign up for FREE at picmonic.com