

Health promotion

Keep healthy children healthy!

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Keep healthy children healthy

- To ensure that children develop into healthy adults
- Child health promoting activities available:
 - Immunization services - EPI
 - Road to health chart
 - Developmental screening e.g. hearing screen

Keep healthy children healthy

- Can be achieved through child health Surveillance
- child health surveillance can only be successfully accomplished if one understand:
 - what is normal
 - The impact that growth and development have on normality

Importance of child health surveillance ¹

- Growth monitoring
- Promotion of breastfeeding and nutrition
- Provision of appropriate immunizations at each opportunity

Importance of child health surveillance²

- Early detection of :
 - Familial diseases
 - Contact with infectious diseases
 - Visual and hearing defects
 - Development of behavioral and psychological problems

Normality of growth and development

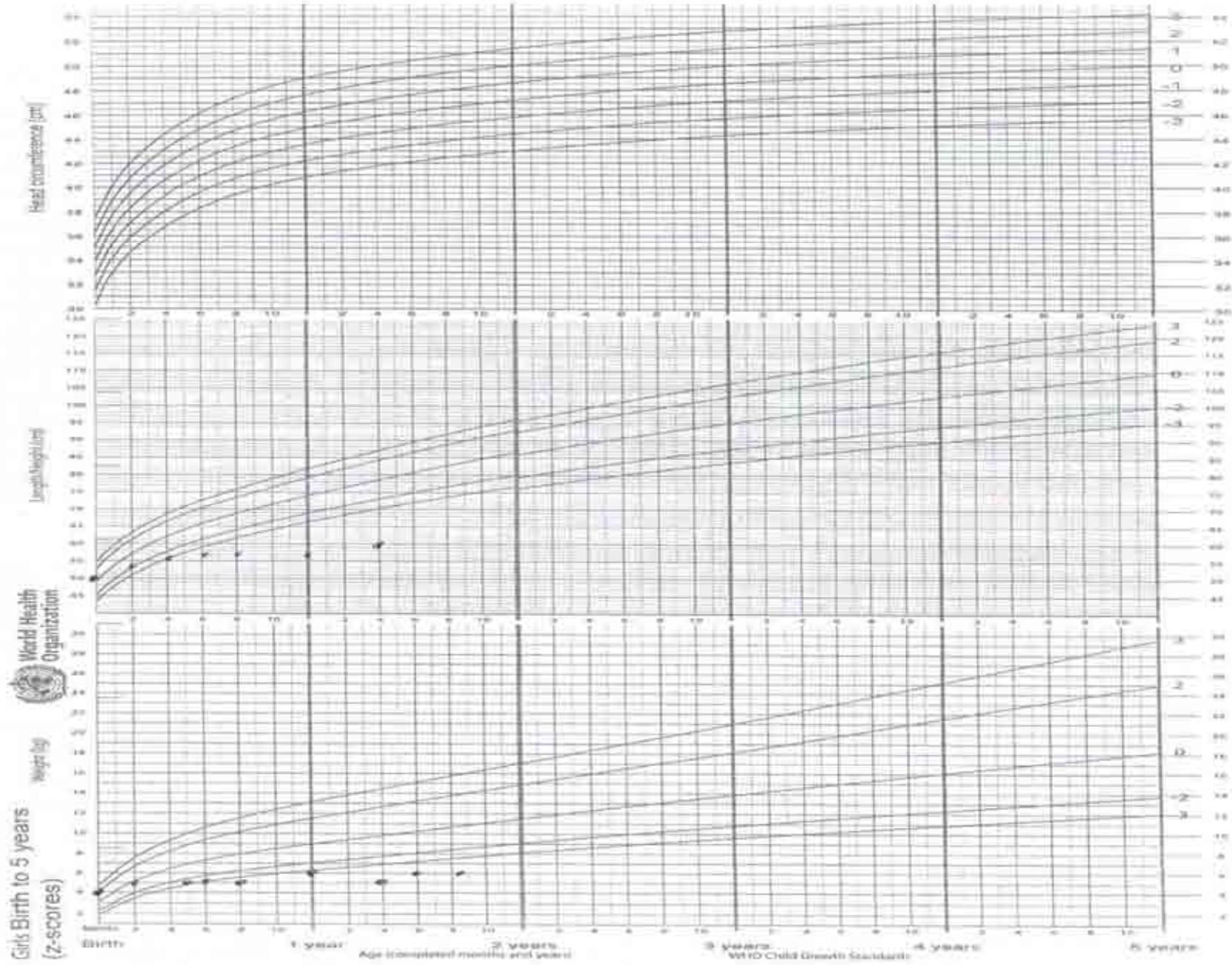
- Rapid growth rate in infancy
 - Largely determined by nutritional rather than endocrine factors
- During puberty- endocrine factors becomes significant

Factors affecting growth

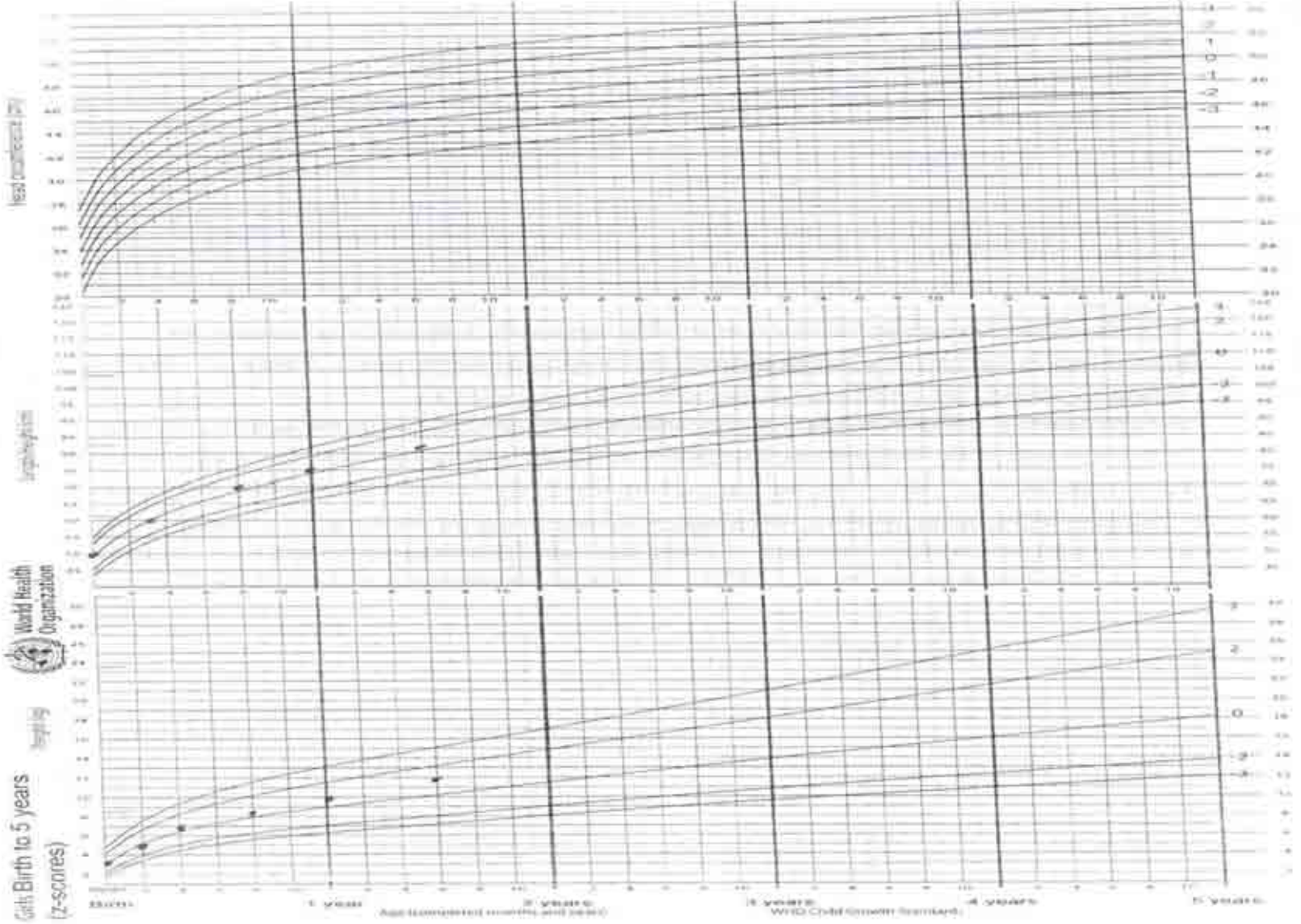
- Intrauterine life
 - Maternal infections and nutrition, smoking, alcohol, or medical problems
- Hereditary and constitutional factors
 - Genetics and child rearing practices
- **Nutrition**
- Health status
- Cultural factors- child rearing beliefs and practices

Normal growth pattern

- Normal child
 - Length, weight and skull circumference tend to follow the same percentile before puberty
- Longitudinal measurements plotted on a standard chart are more informative than standard measurement



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Nutrition

- Optimal feeding in the first 2 years of life is important
 - ensures appropriate growth and development

WHO and UNICEF global recommendations for optimal infant feeding

- Exclusive breastfeeding for 6 months
- Nutritionally adequate and safe complementary feeding from the age of 6 months with continued breastfeeding up to 2 years of age or beyond

Nutrition

- Exclusive breastfeeding
 - Only breast milk and no other fluids (Not even water)
 - Exception: Oral rehydration solution, vitamins, mineral supplements or medicines
- Demand feeding or baby-led feeding
- Monitoring adequacy of feeding
 - Weight gain
 - Urine output

Breast milk

- Colostrum- produced in the first days of life
 - Rich in white cells, antibodies, fat soluble vitamins, proteins and minerals
 - Provides important immune protection

Breast milk

- Composed of fats, carbohydrates, proteins, vitamins (except vit D), minerals and water
- Contains long chain polyunsaturated fatty acids i.e. arachidonic acid, Docosahexanoic acid (Good for the brain)

Breast-feeding

- Advantages (Baby)
 - It is easily digested
 - Supply all nutrients except Vit D and fluoride
 - Reduces the risk of gastrointestinal disturbances
 - Protects against infections because it contains
 - Immunoglobulins , macrophages
 - Lysozymes and lactoferrin (Kill bacteria, viruses and fungi)
 - Prebiotics oligosaccharides (protects mucosal membranes)

Advantages cont

- Readily available, sterile, correct temperature
- Inexpensive, fresh and free of contaminating bacteria
- Less risk of allergy

Breast-feeding

- Advantages (mother)
 - Bonding
 - ↓ risk of postpartum haemorrhage, ovarian cancer
 - Accelerate recovery of pre-pregnancy weight
 - Delay the return of fertility (Suppression of ovulation)

Children who are not breast-fed

- Disadvantages
 - 6-10X more likely to die in the first months of life
 - Increase risk of
 - Obesity
 - Diarrheal illness and other infections
 - Hypertension
 - Chronic diseases with immunological basis e.g. asthma and other atopic conditions, Type 1 DM, ulcerative colitis etc

Complementary feeding



- Start from the age of 6 months
- At this stage children are at risk of under nutrition
- B/feeding is no longer sufficient to meet all energy and nutrient requirements
- Start with small amount of food and increase gradually as the child gets older
- Feed a variety of nutrient rich foods

Complementary feeding

- Cereals are a good source of iron and are usually introduced first
- Followed by vegetables, fruits, meat and finally eggs (esp. if there is a history of atopy)
- Avoid food with high allergenic potential e.g peanuts, fish
- There is no specific order but one new food should be introduced at a time
 - To allow detection of any adverse reaction

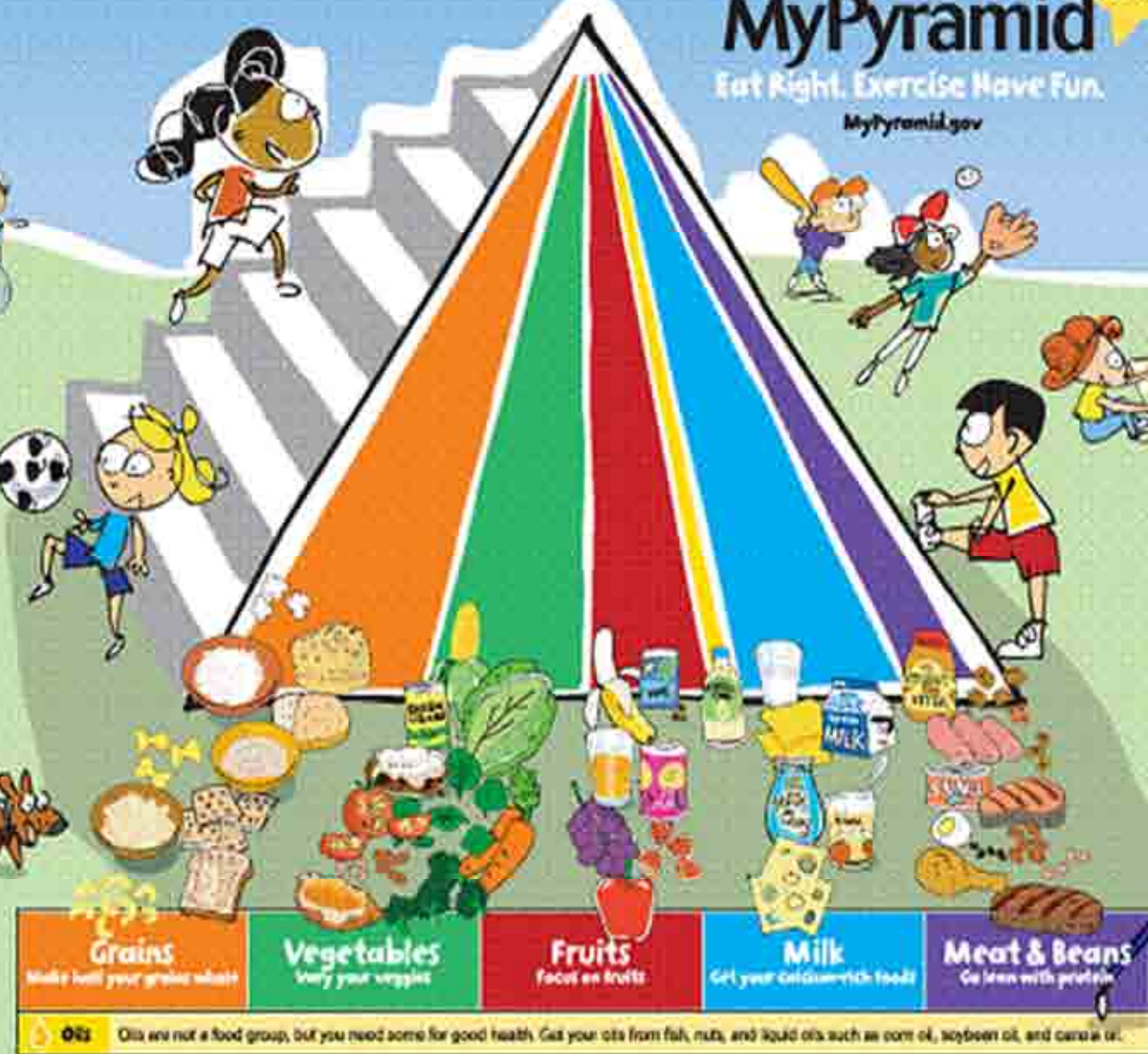
Micronutrients supplementation

- Prevention of Vitamin A deficiency
 - Vitamin A 100 000 IU every 4-6 months for infants 6-12 months of age
 - Vitamin A 200 000 IU every 4-6 months for children >12 months of age

MyPyramid For Kids

Eat Right. Exercise Have Fun.

MyPyramid.gov



- Grains**
Make half your grains whole
 - Vegetables**
Vary your veggies
 - Fruits**
Focus on fruits
 - Milk**
Get your calcium-rich foods
 - Meat & Beans**
Go lean with protein
- Oil Oils are not a food group, but you need some for good health. Get your oils from fish, nuts, and liquid oils such as corn oil, soybean oil, and canola oil.

★ Find your balance between food and fun ★ Fats and sugars — know your limits



Immunization

Definition

- Is a process of inducing immunity against a specific disease
- 1. Active immunization
 - Whole or parts of organisms administered to prevent an infectious disease e.g. Polio vaccine
- 2. Passive immunization
 - Administration of preformed antibodies to induce transient protection against an infectious agent e.g. Immunoglobulins
 - Can be induced naturally through transplacental transfer of antibodies during pregnancy

Passive immunization¹

- Hepatitis B immunoglobulin
 - Newborns of mothers with acute or chronic Hepatitis B within 12 hours of delivery
- Varicella zoster immunoglobulin
 - Newborns of mother who contracted chicken pox between 5 days before to 2 days after delivery
 - Susceptible children (Immuno-suppressed) within 96 hours of exposure

Passive immunization²

- Measles
 - Give exposed susceptible children immunoglobulins within 6 days of exposure
- Rabies immunoglobulin- post exposure to a dog bite
- Tetanus immunoglobulin

Immunization¹

Vaccines consists of:

1. Whole inactivated microorganisms e.g
 - Hepatitis A, Rabies, Inactivated Polio
2. Parts of the organisms e.g
 - acellular pertussis, HPV
3. Polysaccharides capsules e.g
 - Pneumococcal/ meningococcal polysaccharide vaccines
4. Polysaccharides capsules conjugated to protein carriers
 - e.g Hib

Immunization²

5. Live attenuated microorganism e.g

- measles, mumps, rubella, varicella,
- BCG

6. Toxoids-

- Modified bacterial toxin that is made nontoxic and can induce active immune response against the toxin e.g tetanus toxoid

Expanded programme on immunization (EPI)

Age of the child	Vaccines						
At birth	Oral Polio BCG (Bacille Calmette Guerin)						
6 weeks	<table border="0" style="width: 100%;"> <tr> <td style="width: 60%;"> Diptheria, Tetanus,aPertussis Inactivated Polio H. influenza type b (Hib) </td> <td style="width: 5%; text-align: center; vertical-align: middle;">} </td> <td style="width: 35%; vertical-align: middle;">DTaP-IPV// Hib (1)</td> </tr> <tr> <td colspan="3" style="padding-top: 10px;"> Hepatitis B (1) Pneumococcal conjugate vaccine(1) Rotavirus vaccine(1) </td> </tr> </table>	Diptheria, Tetanus,aPertussis Inactivated Polio H. influenza type b (Hib)	}	DTaP-IPV// Hib (1)	Hepatitis B (1) Pneumococcal conjugate vaccine(1) Rotavirus vaccine(1)		
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10 weeks	<table border="0" style="width: 100%;"> <tr> <td style="width: 60%;"> Diptheria, Tetanus,aPertussis InactivatedPolio H. influenza type b (Hib) </td> <td style="width: 5%; text-align: center; vertical-align: middle;">} </td> <td style="width: 35%; vertical-align: middle;">DTaP- IPV// Hib (2)</td> </tr> <tr> <td colspan="3" style="padding-top: 10px;"> Hepatitis B (2) </td> </tr> </table>	Diptheria, Tetanus,aPertussis InactivatedPolio H. influenza type b (Hib)	}	DTaP- IPV// Hib (2)	Hepatitis B (2)		
Diptheria, Tetanus,aPertussis InactivatedPolio H. influenza type b (Hib)	}	DTaP- IPV// Hib (2)					
Hepatitis B (2)							

Age of the child	Vaccines
14 weeks	Diphtheria, Tetanus, aPertussis } DTaP-IPV// Hib (3) Inactivated Polio } H. influenza type b (Hib) } Hepatitis B (3) Pneumococcal conjugate vaccine (2) Rotavirus vaccine (2)
9 months	Measles vaccine (1) Pneumococcal conjugate vaccine (3)
18 months	Diphtheria, Tetanus, aPertussis } DTaP-IPV// Hib (4) Inactivated Polio } H. influenza type b (Hib) } Measles vaccine (2)
6 years	Tetanus and reduced strength Diphtheria Td (1)
12 years	Tetanus and reduced strength Diphtheria Td (2)

Immunization of an older child not immunized in infancy

- Measles vaccine at the first visit
- BCG if tuberculin test is negative
- DTaP-IPV// Hib and hepatitis B vaccine(HBV) 4-6 weeks apart x3
- If the child is 12-60 months of age- Single dose of Pneumococcal conjugate vaccine(PCV)

Immunization of children with HIV

- According to the normal schedule (EPI)

Contraindications

- Egg allergy
 - avoid measles, mumps, yellow fever(produced in eggs or chick embryos)
- Immunosuppression e.g Malignant diseases, irradiation therapy, high dose steroids
 - Avoid live vaccines e.g. BCG, Measles, MMR, TOPV
 - Vaccination to be deferred for 3 months following cessation of such therapy)
- Child on immunoglobulins or plasma
 - Avoid measles and MMR vaccines
 - Vaccination to be deferred for 3 months following cessation of such therapy

Conditions that are not contraindications to immunization

- Minor illnesses e.g. diarrhea
- Malnutrition
- Breastfeeding
- Prematurity
- Family history of convulsions
- Allergy to antibiotics
- Static neurological disorders e.g CP, Down syndrome

Common adverse reactions to vaccine

- DTP-whole cell
 - Pyrexia
 - Local indurations and tenderness
 - Convulsions, encephalitis
 - Screaming attacks

References

1. Coovadia HM, Wittenberg DF. Paediatrics and Child Health: A Manual for Health Professionals in Developing Countries. 6th ed. Cape Town: Oxford: 2009
2. Kliegman RM, Behrman RE, Jenson HB, Stanton BF. Nelson textbook of pediatrics. 18th ed. Philadelphia: Saunders Elsevier, 2007