جامعة الفرات الاوسط التقنية /المعهد التقني سماوة

قسم تقنيات التمريض

المحاضرة الثامنة +التاسعة

اسم المادة / أطفال

المرحلة الدراسية / الثانية

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Immunization

IMMUNIZATION is the process of inducing immunity against a specific disease

Immunity: resistance of a host to pathogens and their toxic effects

Types of immunity

1. **Innate immunity**
   - First line immune response , exist before infection

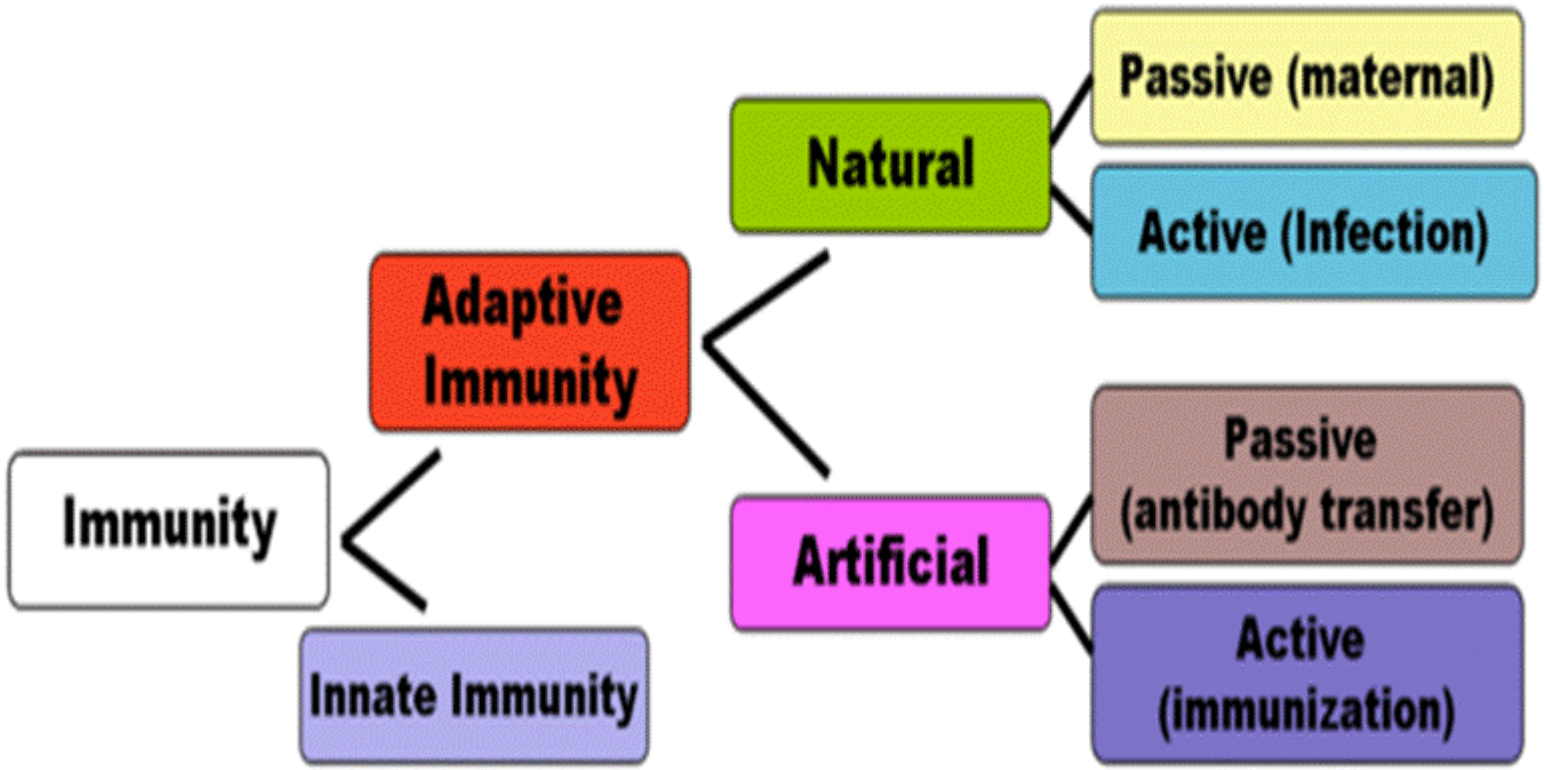
2. **Acquired (adaptive)**
   - Adapt after infection
   - Childhood immunization

Adaptive immunity is achieved either

1- Actively: after exposure to pathogen (Vaccine, Infection)

2-Passively: through administration of antibody-containing preparations or naturally (transplacental transfer of antibodies during gestation. Maternally derived antibodies can provide protection during an infant's first months of life.)

Immunity and its types



Vaccination

Vaccination is a process of administration of vaccine in order to stimulate the immune system against the microbe, thereby preventing disease.

Vaccines are defined as whole or parts of microorganisms administered to prevent an infectious disease

Types of vaccines

1- **Live vaccines** (live attenuated infectious agents)

2- **killed vaccines** (Inactivated agents)

3- **Toxoid** (modified bacterial toxin that is made nontoxic but is still able to induce an active immune response against the toxin.)

Age	Vaccine	Route
1st 24 hours	BCG + OPV + HBV	ID + ORAL + IM
2 months	DPT-HiB-HBV + OPV + RV	IM + ORAL + ORAL
4 months	DTP-HiB + OPV + RV	IM + ORAL + ORAL
6 months	DPT-HiB-HBV + OPV + RV	IM + ORAL + ORAL
9 months	Measles vaccine + Vit A (100000 IU)	SC + ORAL
15 months	MMR	SC
18-24 months	1st booster OPV + DPT-HiB + Vit A (200000 IU)	ORAL + IM + ORAL
4-6 years	2nd booster OPV + DTP + MMR	ORAL + IM + SC

BCG(Bacillus Calmette Guerin)

- Live attenuated Mycobacterium tuberculosis vaccine
- Site: Intradermal, Lt upper arm
- Generally safe
- Swelling within 2 wks, papule, ulcer, heal within 12wks, flat scar

Poliovirus vaccines

- Two types of vaccines are available: inactivated or killed and live attenuated
- 3 doses and boosters, 2-3 oral drops.
- Should not given to individuals known to be immunocompromised.

Hepatitis B vaccine (HBV)

Inactivated purified protein Ag of virus

In preterm baby the 1st dose of vaccine delayed till 1 month age.

DPT vaccine

- DPT(Diphtheria,pertusis,Tetanus),
- killed vaccine
- Route: IM

3 major contraindications are:

- An acute febrile illness
- Suspected neurologic disease
- Severe reaction to prior dose of DPT

H. inf.type B(HiB) vaccine

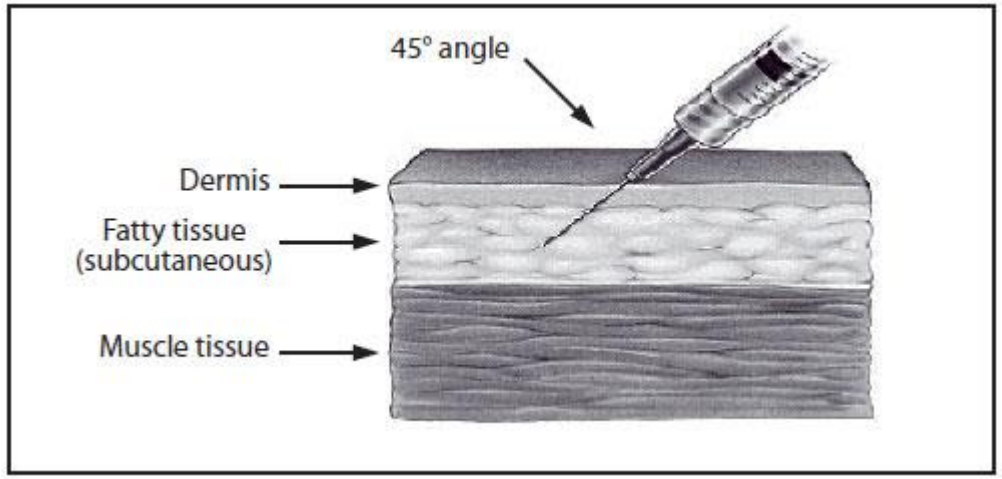
- As about 90% of infections caused by H.inf. due to type B so vaccine used is type B.
- Inactivated polysaccharide vaccine
- Route: IM

Rota virus vaccine(ROV)

- Rota virus responsible of about 45% of cases of diarrhea in children.
- The vaccine is given as oral drops at age of 2,4 and 6 months
- The age of child should not more than 3 months at 1st dose of vaccine
- No dose of vaccine should given after 8 months age.

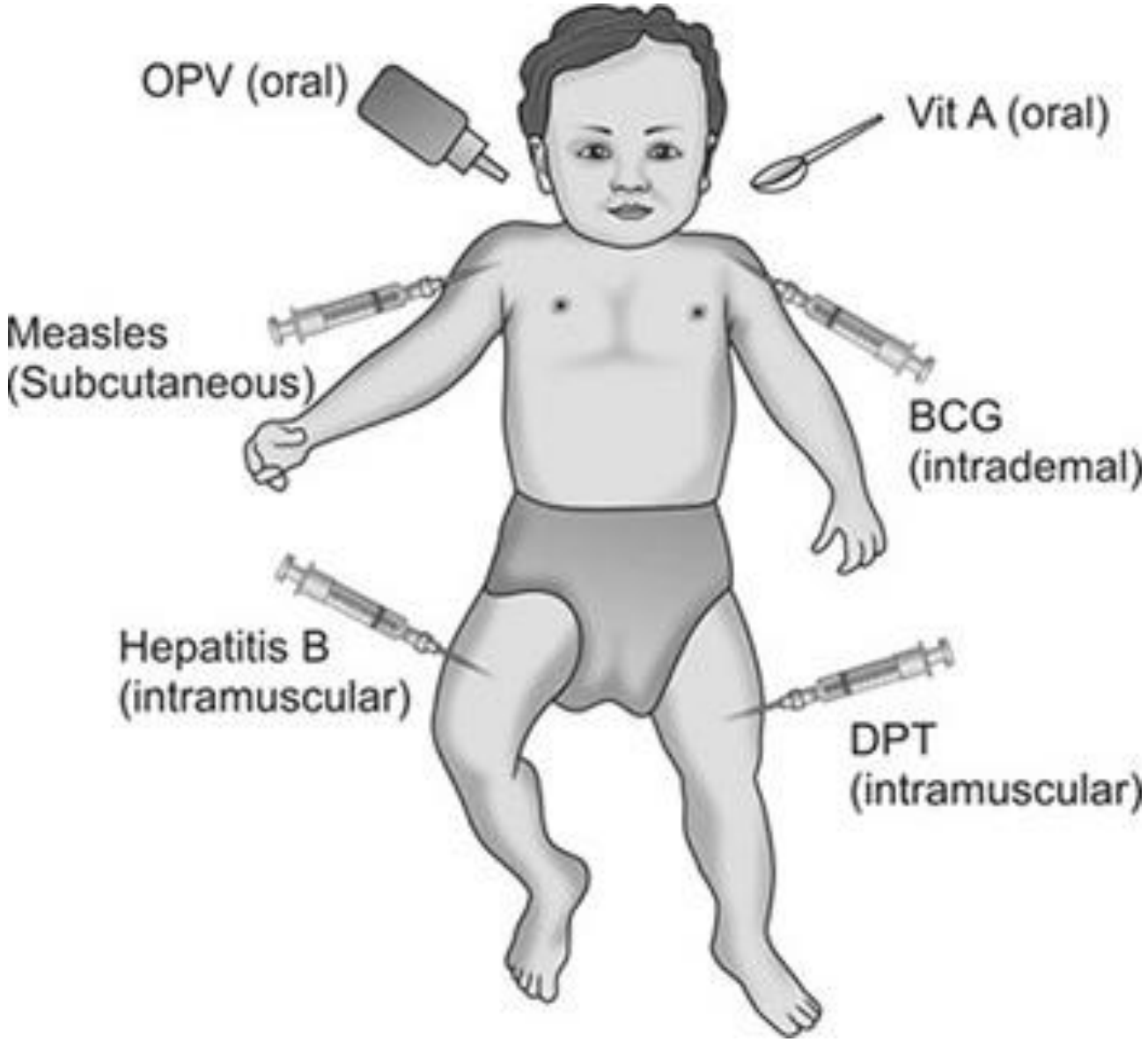
Measles Vaccine

- Live attenuated virus
- Single dose at age of 9 months (Iraq).



MMR (measles,mumps,rubella)

- Live attenuated vaccine, given as 2 doses (15 month, 4-6 year)
- Transient rashes and fever 6-11 days after immunization.
- Route: SC


OPV (oral)
Vit A (oral)
Measles
(Subcutaneous)
BCG
(intrademal)
Hepatitis B
(intramuscular)
DPT
(intramuscular)

Questions before giving the vaccines:

- Is child sick today?
- Does child have any severe (life-threatening) allergies?
- Has child ever had a severe reaction after a vaccination?
- Does child have a weakened immune system (because of diseases such as cancer, or medications such as steroids)?
- Has child gotten a transfusion, or any other blood product, recently?
- Has child ever had convulsions or any kind of nervous system problem?
- Does child not seem to be developing normally?

General contraindications

- Serious allergic reaction (anaphylaxis) after a previous vaccine dose.
- Immunocompromised states
- Moderate or severe acute illness with or without fever

Thank
you