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UNIVERSITY

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# IMMUNIZATION: COMMON TERMS

## **IMMUNIZATION**

Process Of inducing immunity by stimulating immune system through antigens.

OR

The fact or process of becoming, as against a disease.

## **IMMUNITY**

Resistance of a host to a specific agent

OR

Immunity means exemption or resistance



## **VACCINE**

Any preparation of a weakened or killed bacteria or viruses introduced into the body to prevent a disease by stimulating antibodies against it.

## **VACCINATION**

Administration of antigenic material (the vaccine) to produce immunity to a disease.

## **FULL IMMUNIZATION:**

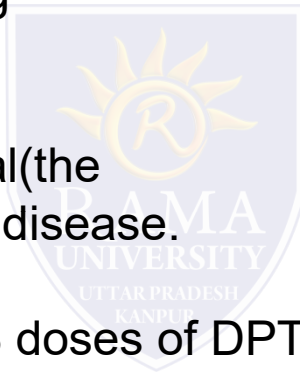
Beneficiary child (12-23 months) -3 doses of DPT and OPV each, 1 dose of BCG & measles each.

Mother- two dose or 1 booster dose of tetanus toxoid during her pregnancy.

## **PARTIAL IMMUNIZATION**

Child-missed any vaccine or one or more dose

Mother- received just one dose of primary tetanus toxoid during last pregnancy



## HERD IMMUNITY

Resistance to spread of infectious disease in a group because of few susceptible members, making transmission unlikely.

The immunological status of a population, determined by the ratio of resistant to susceptible members and their distribution



# IMMUNIZATION PROGRAM

## IMMUNIZATION PROGRAM IN INDIA-MILE STONES-

**1978: EPI**

**1985: UIP, Measles vaccine added**

**1988: AEFI Surveillance**

**1990: Vitamin A**

**1992: CSSM**

**1995: Polio National Immunization days**

**1997: RCH-I**

**2005: RCH-II and NRHM**



# IMMUNIZATION SCHEDULE

Vaccine	When to give	Dose	Route	Site
<b>For pregnant women</b>				
TT-1	Early in pregnancy	0.5ml	Intramuscular	Upper arm
TT-2	4 weeks after TT-1*	0.5ml	Intramuscular	Upper arm
TT- booster	If received 2 TT doses in a pregnancy within last 3 years*	0.5ml	Intramuscular	Upper arm
<b>For infants</b>				
BCG	At birth or as early as possible till one year of age	0.1 ml (0.05ml till 1 moth age)	Intra dermal	Left upper arm
Hepatitis	At birth or as early as possible within 24 hours	0.5ml	Intra muscular	Antero lateral side of mid-thigh
OPV-0	At birth or as early as possible within 15 days	2 drops	Oral	Oral
OPV-1, 2 & 3	At 6weeks,10weeks &14weeks	2 drops	Oral	Oral
DPT 1, 2 & 3	At 6weeks,10weeks &14weeks	0.5ml	Intramuscular	Antero lateral side of mid-thigh
Hep B 1, 2 & 3	At 6weeks,10weeks&14weeks	0.5ml	Intramuscular	Antero lateral side of mid-thigh
Measles	9 completed months -12 months	0.5ml	Subcutaneous	Right upper arm
Vitamin – A (1 <sup>st</sup> dose )	At 9 months with measles	1ml (1 lakh IU)	Oral	Oral
<b>For children</b>				
DPT booster	16-24 month	0.5 ml	Intra muscular	Antero-lateral side of mid thigh
Measles 2 <sup>nd</sup> dose	16-24 month	0.5ml	Subcutaneous	Right upper arm
OPV booster	16-24month	2 drops	Oral	Oral
Japanese encephalitis **	16-24 month	0.5ml	Subcutaneous	Left upper arm
<b>Vitamin – A ***</b>				
(2 <sup>nd</sup> to 9 <sup>th</sup> dose)	16 months then one dose every 6 month upto age of 5 years	2 ml (2 lakh IU)	Oral	Oral
DPT booster	5-6 years	0.5 ml	Intra muscular	Upper arm
TT	10 years & 16 years	0.5 ml	Intra muscular	Upper arm

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# COLD CHAIN





## COLD CHAIN

A system of transporting and storing vaccines at recommended temperature from the point of manufacture to the point of use.



# **ESSENTIAL ELEMENTS:**

- Personnel to organize and manage vaccine distribution
- Equipment for storage and transport of vaccines
- Transport facilities
- Maintenance of equipment and Monitoring

## **Responsibility - District/ Block Managers**

- Cold chain equipment installation, operation and maintenance

## COLD CHAIN EQUIPMENT

<b>Name of equipment</b>	<b>Place of Installation</b>	<b>Temperature</b>	<b>Utilization</b>
<b>ILRMK 300</b>	Regional & district HQ	4-2 C to 4*8 C	BCG, DPT, DT, TT, Measles, Hep- B Vaccine
<b>Deep freezer 300</b>	Regional & district HQ	-18 C to-20 C	Preparation of ice packs and storing OPV vaccines.
<b>ILRMK 140 litres</b>	PHC	4*2 C to 4-8 C	BCG, DPT, DT, TT, Measles, Hep- B Vaccine

# COLD CHAIN EQUIPMENT

<b>Name of equipment</b>	<b>Place of Installation</b>	<b>Temperature</b>	<b>Utilization</b>
<b>Cold Box 20 litres</b>	State, Regional,district HQ & PHC	+2 C to +8 C	Vaccines can be stored for transportation or in case of power failure
<b>Cold Box 5 Litres</b>	District HQ & PHC	+2 C to +8 C	Vaccines can be stored for transportation or in case of power failure
<b>Vaccine Carrier (1.7 litres)</b>	PHC/Sub Centre (1.7 litres)	+2 C to +8 C	Vaccines can be stored for transportation or incase of power failure
<b>Deep freezer(140L)</b>	PHC	-18C to -20 C	Preparation of ice packs

# Cold Chain Equipment: District Level



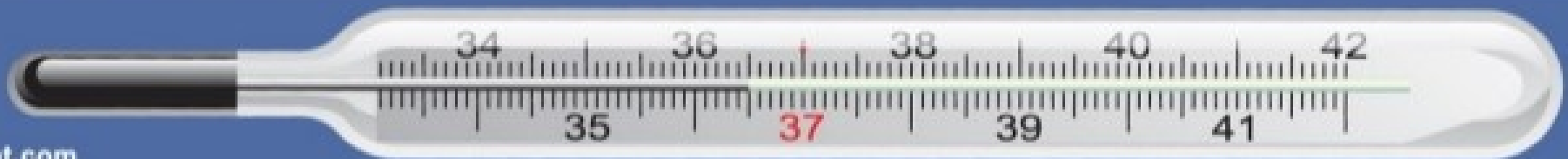
Cold Box



Deep Freezer (DF) 300 ltr



Ice-Lined Refrigerator(ILR) 300 ltr





**Ice lined Refrigerator**



**Deep Freezer**



**Cold box and vaccine carrier**



**Ice pack**



**Vaccine carrier**

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THANK YOU

