

PHARMA HEALTH CLUB

SAFE USE OF MEDICINES FOR BETTER HEALTH

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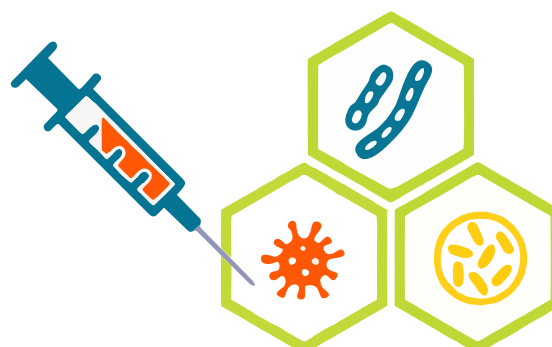
References

VACCINATION

What is Immunization?

- Immunization is the process by which an individual's immune system becomes fortified against an agent (known as the immunogen). [1]
- When this system is exposed to molecules that are foreign to the body, called non-self, it will orchestrate an immune response, and it will also develop the ability to quickly respond to a subsequent encounter because of immunological memory. This is a function of the adaptive immune system. [1]
- Immunization is done through various techniques, most commonly vaccination. Vaccines against microorganisms that cause diseases can prepare the body's immune

system, thus helping to fight or prevent an infection. Other molecules can be used for immunization as well, for example in experimental vaccines against Nicotine (NicVAX) or the hormone Ghrelin in experiments to create an obesity vaccine. [1]



What are basic types of Immunization? [3]

Live, attenuated vaccine

Live, attenuated vaccines contain a version of the living microbe that has been weakened in the lab so it can't cause disease.

Inactivated Vaccines

Scientists produce inactivated vaccines by killing the disease-causing microbe with chemicals, heat, or radiation. Such vaccines are more stable and safer than live vaccine

Toxoid Vaccines

For bacteria that secrete toxins, or harmful chemicals, a toxoid vaccine might be the answer. These vaccines are used when a bacterial toxin is the main cause of illness

Conjugate Vaccines

A conjugate vaccine is created by covalently attaching a poor (polysaccharide) antigen to a carrier protein (preferably from the same microorganism), thereby conferring the immunological attributes of the carrier to the attached antigen [4]

Subunit Vaccines

Instead of the entire microbe, subunit vaccines include only the antigens that best stimulate the immune system. In some cases, these vaccines use epitopes—the very specific parts of the antigen that antibodies or T cells recognize and bind to

DNA Vaccines

DNA vaccination is a technique for protecting a human against disease by injecting it with genetically engineered DNA so cells directly produce an antigen, resulting in a protective immunological response. [5]

Recombinant Vector Vaccine

Recombinant vector vaccines are experimental vaccines similar to DNA vaccines, but they use an attenuated virus or bacterium to introduce microbial DNA to cells of the body. "Vector" refers to the virus or bacterium used as the carrier.

Immunization Program: [6]

**IAP Recommended Immunization Schedule 2013
for Children Aged 0-18 years (with range)**

Age Vaccine	Birth	6 wk	10 wk	14 wk	18 wk	6 mo	9 mo	12 mo	15 mo	18 mo	19-23 mo	2-3 yr	4-6 yr	7-10 yr	11-12 yr	13-18 yr
BCG	BCG															
Hep B	Hep B1	Hep B2						Hep B3								
Polio	OPV 0	IPV 1	IPV 2	IPV 3			OPV 1	OPV 2		IPV B1			OPV 3			
DTP		DTP 1	DTP 2	DTP 3						DTP B1			DTP B2			
Tdap																Tdap
Hb		Hb 1	Hb 2	Hb 3						Hb Booster						
Pneumococcal		PCV 1	PCV 2	PCV 3						PCV Booster						PCV
PPSV23																PPSV
Rotavirus		RV 1	RV 2	RV 3												
Measles								Measles								
MMR								MMR 1					MMR 2			
Varicella								VAR 1					VAR 2			
Hep A								Hep A1 & Hep A2								
Typhoid												Typhoid				
Influenza											Influenza (yearly)					
HPV																HPV 1-3
Meningococcal																Meningococcal
Cholera																Cholera 1 & 2
JE																Japanese Encephalitis

* This schedule includes recommendations in effect as of November 2013.
 * These recommendations must be read with the footnotes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars.
 Legend: Yellow = Range of recommended ages for all children; Green = Range of recommended ages for catch-up immunization; Blue = Range of recommended ages for certain high-risk groups; White = Not routinely recommended

What vaccines can women receive while pregnant? [7]

- Women who are pregnant should NOT receive the MMR, oral typhoid yellow fever, varicella, or zoster vaccines. These vaccines are made from live attenuated viruses and potentially could cause a problem.
- Pregnant women MAY RECEIVE tetanus and influenza vaccines as needed. It is safe to receive hepatitis A & B, meningococcal, and pneumococcal vaccines

What to do for missed or delayed Vaccination dose? [8]

- If certain vaccination doses are missed or delayed due to unforeseen circumstances, a CATCH-UP VACCINATION SCHEDULE kicks into gear.
- The catch-up vaccination schedule makes sure that all the vaccines are administered appropriately after taking the delayed/missed dose into account.



Five-in-one jab against diphtheria, tetanus, polio, whooping cough, and flu
Pneumococcal Vaccine



Five-in one jab Meningitis C



Five-in one jab Meningitis C
Pneumococcal



Combined Hib/ Meningitis C vaccin



MMR (measles, mumps and rubella)
Pneumococcal vaccin

The catch-up schedule is as follows:

Sr. No	Vaccine	Prevents	Minimum Age for Dose 1	Interval Between Dose 1 and Dose 2	Interval Between Dose 2 and Dose 3	Interval Between Dose 3 and Dose 4	Interval Between Dose 4 and Dose 5
1	BCC	TB & Bladder cancer	Can be Given till age 5 only				
2	HepB	Hepatitis B	If missed at birth, then as soon as possible	1 month	5 months		
3	Polio virus	Polio	First month after birth	1 month	6 months		
4	DTP	Diphtheria, Tetanus & Pertussis	Any time	1 month	5 months		
5	Hib	Infections caused by Bacteria	Can be given till age 5 only.	4 weeks	6 months (Booster 1)	6 months	6 months (Booster 2)
6	PCV	Pneumonia	Dose when aged between 2-5 year old				
7	RV	Severe Diarrheal Disease	Age should be less than 6 months	4 weeks	4 weeks		
8	Typhoid	Typhoid Fever, Diarrhea	Can be given any time				
9	MMR	Measles, Mumps & Rubella	For school-aged children	4 weeks			
10	Varicella	Chickenpox	Can be given any time	For ages 7-12 years: 3 months. For ages 13-18 years: 4 weeks			
11	HepA	Liver disease	Can be give any time	6 months			
12	Tdap	Diphtheria, Tetanus & Pertussis	For ages 7-10 years 1st dose. For ages 11-18 years: One dose.	Ages 7-10: 1 months	Ages 7-10: 5 months		

Special vaccination for Travelers [9]

For people traveling from India to the following countries:

	Australia	South Africa	U.K.	U.S.A.
Malaria	No risk	High risk	No risk	No risk
Yellow Fever	No risk	Required	No risk	No risk
Hepatitis A	No risk	High risk	Low risk	Low risk
Typhoid	No risk	Moderate risk	Low risk	Low risk
Influenza	Winter risk	Winter risk	Winter risk	Winter risk
Rabies	No risk	Required	Required	Required
Cholera	No risk	Required	No risk	No risk

● Immunize India [10]

IAP-ImmunizeIndia is the world's largest vaccination reminder service, and is available free of cost to parents anywhere in India. It is a national non-profit initiative under the aegis of Indian Academy of Pediatrics. The initiative is supported by Vodafone, our national telecom partner.

● How to register for the service?

- Parents, in India, can opt for the service by sending a text message by SMS to the national short code 566778 from any mobile phone in India, in the following format :
 - Immunize [Space] [Baby's first name] [Space] [Baby's date of birth]

● Example : Immunize Rekha 04-11-2013

- The phone will immediately receive a confirmation message. Text message vaccination reminders will be sent to the registered phone for 12 years, following the IAPCOI prescribed immunization schedule.
- 3 reminders are sent, at 2 day intervals, for each vaccination that is due. An example of a reminder is - "Rekha is due for a vaccination this week, please do not forget to visit your doctor"
- Reminders do not advertise, recommend or promote any vaccine brands or products.

● Are there any SIDE EFFECTS after Immunization? [8]

Common side-effects following vaccination are mild and fleeting in nature Mild fever to pain at the injection site. They usually last for 1-2 days after immunization.

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