

## A vaccination story you need to know for your children

- ✓ **First,** complete vaccinations at the recommended time in accordance with the schedule.
- ✓ **Second,** make sure to get vaccinations only after the pre-vaccination screening by a doctor.
- ✓ **Third,** check the vaccination record of your children through the Internet website (<https://nip.kdca.go.kr>) or mobile app.
  - If the vaccination record cannot be confirmed in the system, request the registration of the vaccination records of your child to the clinic that administered the vaccination.
  - The immunization book is intended to help parents/guardians have their children to get immunization at the recommended time. When the vaccination information (vaccine no., vaccine manufacturer name, etc.) is omitted, the vaccination cannot be subjectively confirmed and therefore the certificate of vaccination cannot be issued.
- ✓ **Fourth,** if any adverse reactions occur after the vaccination, report to the nearest public health center or the Internet website, and have a doctor's examination.
- ✓ **Fifth,** if you were vaccinated overseas, have 'the vaccination certificate' issued in English and visit the nearest public health center to request registration.

# Make a Healthy Korea with Healthy Children (2022) Parents' Guide for Children Immunization

English



CHAPTER 1

# Vaccination Overview



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## What is Vaccination?

**Vaccination is the most effective way to protect children against infectious diseases.**

Immunity is the ability of the immune system to recognize and eliminate pathogens that cause diseases and protect our body from infectious diseases.

Immunity is classified into active and passive immunity depending on how it is acquired.

### ➤ Active Immunity

Active Immunity refers to the ability to create immunity against pathogens by stimulating the human body's immune system and active immunity is acquired through the development of infectious diseases or immunizations and is mostly permanent.

### ➤ Passive Immunity

Passive Immunity is an ability that can be acquired by injecting antibodies made in animal surrogates or humans. Passive immunity can prevent infections for a certain period of time but is temporary. Antibodies disappear through a period of weeks or months and the immunity eventually disappears.

Transplacental passive antibodies are inherited by a fetus from the mother through immunoglobulin.

The preventive ability of passive immunity is temporary, therefore immunization is important to acquire sufficient immunity against diseases.

#### Roles of Vaccines

- When being infected with diseases our body makes antibodies as the immune system reacts to the pathogens in the body, but it is dangerous and can be fatal.
- Vaccines are made by attenuating or killing the toxins in viruses or germs, which are the causes of infectious diseases, but vaccination generates antibodies in human bodies as if being exposed to diseases.

## General Principles of Vaccination

**To achieve the best result through vaccination, the following general principles shall be observed.**

- **Vaccinate according to the recommended schedule.**
- **Most vaccines can be given at the same time with other childhood vaccines.**  
However, if more than two different types of live-attenuated vaccines are administered at the same time or cannot be administered at the same time, a four-week interval is recommended.
- **In general, most vaccines may be used interchangeably, regardless of their manufacturer.**

**The following vaccines are not recommended for cross inoculation due to a lack of immunogenicity and safety data.**

- DTaP Vaccine and DTaP combined vaccine (three routine vaccinations shall be administered with the same manufacturer)
  - ※ DTaP-IPV (Tetraxim), DTaP-IPV/Hib(Pentaxim), and DTaP-IPV-HepB-Hib(Hexaxim) manufactured by the same company, therefore are interchangeable. Check the vaccination schedule before vaccination as it could be unnecessary or be early according to the Hib vaccination schedule
- Inactivated Japanese Encephalitis vaccine and live-attenuated vaccines and between live-attenuated vaccines are interchangeable.
- Pneumococcus PCV 10 (Synflorix) and PCV 13 (Prevenar 13)
- Human Papilloma Virus (HPV) Vaccine: Bivalent (Cervarix) and quadrivalent (Gardasil) and 9-valent (Gardasil 9)
- Rotavirus Vaccine: Human Rotavirus Vaccine (Rotarix), Human-Bovine Reassortant Rotavirus Vaccine (RotaTeq)

- **For the vaccinations which require multiple administrations, a delay in the schedule does not reduce the prevention effects; however, early administration requires precautions as it could lead to less effectiveness as it lowers antibody development.**
  - Starting from the beginning or additional administration is not necessary for a delay in the vaccination schedule in general, but consultation with a doctor is required for the follow-up administration schedule.
  - Vaccination is recommended if the previous vaccination records are unknown, as it is considered to have a risk of infection.
- **In the case of injecting antibody-containing blood products, such as immunoglobulin or the receiving of a blood transfusion, live-attenuated vaccines require a delay in administration after consulting with a doctor prior to the vaccination.**

## Vaccination Types for Children

Vaccines recommended for children and vaccine-preventable diseases are as follows:

Categories	Abbreviations	Vaccines
National Vaccination	BCG (intradermal)	Tuberculosis
	HepB	Hepatitis B
	DTaP	Diphtheria, Tetanus, Pertussis
	Td	Tetanus, Diphtheria
	Tdap	Tetanus, Diphtheria, Pertussis
	IPV	Polio
	DTaP-IPV	Diphtheria, Tetanus, Pertussis, and Polio
	DTaP-IPV/Hib	Diphtheria, Tetanus, Pertussis, Polio, and Haemophilus Influenzae Type B
	MMR	Measles, Mumps, Rubella
	VAR	Varicella
	IJEV	Inactivated Japanese Encephalitis Vaccine
	LJEV	Live-attenuated Japanese Encephalitis Vaccine
	PCV(Protein Conjugated)	Pneumococcus
	Hib	Haemophilus Influenzae Type B
	HepA	Hepatitis A
IIV	Influenza	
HPV	Human Papilloma Virus	
Other Vaccination	BCG(percutaneous)	Tuberculosis
	RV	Human Attenuated Rotavirus Vaccine (Rotarix) Human-Bovine Reassortant Rotavirus Vaccine(RotaTeq)

### ⓧ National Vaccination

Mandatory vaccination recommended by the government (the government established standards and methodologies for vaccine -preventable diseases and vaccination according to the Infectious Disease Prevention and Control Act)

### ⓧ Other Vaccinations

paid immunizations available at private medical institutions for infectious diseases other than national routine vaccination programs or designated infectious diseases.

\* Refer to page 12, the National Immunization Program for Children for more details.

※ The names of the vaccines distributed in Korea can be checked at the Vaccination Guides→ Searching for Vaccinations → Vaccines Used in Korea

## Vaccination Precautions by Step

### ⓧ Step1. Before Vaccination

- Bring the child's vaccination records and toys the child likes.
- Do not scare the child and tell them frankly that "it will sting for a moment but, you will feel fine in few seconds".
- Read the vaccination information, check the child's health status, and fill in the "pre-screening sheet" at the clinic.

### ⓧ Step2. During Vaccination

- Let the child sit on the parent's lap and hold safely while distracting the child to make the child feel at ease.
- Gently stroke the child and make eye contact while talking and smiling.
- Give the child the toys to make the child assured.
- Help the child to take a deep breath slowly.

### ⓧ Step3. After Vaccination

- Assure the child that the vaccination is over.
- Hug or stroke the child gently, or breastfeed the baby.
- Gently talk to the child and praise or play with the child.
- Observe the possible adverse reactions to the vaccination while staying at the hospital (for 15 to 30 minutes)
- Consult with the doctor regarding the follow-up vaccination schedule.

\* The follow-up vaccination schedule will be reminded through text message when you agree with the notification on the pre-screening sheet, check whether your phone number is correctly registered.

### ⓧ Step4. Returning Home

- Mark the follow-up vaccination schedule on the calendar.
- Consult with the doctor when irregularities are found in the following few days.
- Cool down the vaccination spot with a cold wet towel if it swells up, turns red, or aches.

## How to Hold the Child Comfortably During Vaccination

Hold the child comfortably and safely as shown in the picture for safe vaccination.

### Infants and Toddlers



- ① A parent has the child sit on the lap.
- ② Put the child's arm across the parent's back and put the parent's arm around the child's body.
- ③ Hold the other arm of the child with the parent's arm and hand.
- ④ Put the child's legs between the parent's thighs with support or the parent's the other arm.

### School Children



- ① Have the child sit on the parent's laps or stand in front of the parent.
- ② Hold the child with the parent's arms and hands.
- ③ Hold the child's legs tightly between the parent's thighs.

## Vaccination Prohibitions and Precautions

Vaccination prohibitions refer to the situations where vaccination is prohibited and precautions refer to the situations where vaccinations should be delayed or require precaution.

### Permanent Prohibitions of Vaccination

- In the event of the occurrence of anaphylaxis (severe allergic reaction) against the vaccine ingredient or after the previous vaccinations
- In the event of the occurrence of encephalopathy without known a cause within 7 days of administration of the pertussis vaccine or the vaccine that contains pertussis ingredients
- In the event of the occurrence of severe combined immunodeficiency or intussusception, rotavirus vaccine is prohibited

### Permanent precautions for the vaccination that includes pertussis vaccine during childhood

- Fever with a temperature of 40°C (105°F) within 48 hours of vaccination
- Conditions such as dehydration or shock that occur within 48 hours of vaccination
- Continuous crying for more than 3 hours that cannot be soothed within 48 hours of vaccination
- Convulsions that occurred within 3 days of vaccination regardless of manifestation of fever

### Temporary prohibitions of vaccination with an attenuated live vaccine

- Lowered immunity

### Temporary precautions of vaccination

- Precautions for all vaccination for moderate or severe acute stage patients
- In the event of having recently been administered antibody-containing blood products such as immunoglobulin and those receiving a blood transfusion, exercise caution with the immunization schedule with the live-attenuated vaccines containing MMR and varicella

### Cases that vaccination is not prohibited

In general, in the following situations, vaccination is not prohibited. Vaccinate after consulting with the doctor.

- Slight acute disease (mild fever, flu, upper respiratory tract infection, middle ear infection, and mild diarrhea)
- Currently undergoing antibiotic and antiviral treatment
- Being exposed to diseases or recovering
- If there is a pregnant woman or immune deficient person in the family
- Premature or breast-fed baby
- Allergic to substances other than vaccine ingredients
- Different types of allergies other than anaphylaxis
- Adverse reactions unrelated to immune deficient person, convulsion, having a family history of SIDS

## How to Prevent SIDS

Sudden Infant Death Syndrome or SIDS refers to the sudden death of an infant younger than 12 months old without a known cause even after the execution of an on-site examination, a history search, and a follow-up examination (autopsy), etc.

### Factors that increase the risk of SID

- Sleeping on tummy or sideways
- 2-4 months after birth
- After suffering a fever causing diseases
- Cold season
- Being born prematurely
- Excessive warming
- Sharing bedding with family
- Parents' smoking

### Four Safety Rules to Prevent SIDS

#### 1. Proper Sleep Position

- Put your baby to sleep on his/her back.
- Use a separate bed or blanket when sharing the room with your baby.

#### 2. Use Proper Bedding

- Use a flat mat or blanket.
- Spread out a thin sheet and fix all corners to the mattress or blanket.
- Fix a blanket under both armpits of the baby.

#### 3. Pleasant Environment

- Avoid overheating.
- Get rid of any objects your baby can pull on and play with such as big pillows, cushion, cloth, etc.

#### 4. Safe Feeding

- Breastfeeding reduces the risks of infection.
- Make sure your baby burps after feeding and before sleeping
- Do not put your baby to bed while feeding.

## Adverse Reactions to Vaccination

- The vaccines used for the national immunization are all proven safe through the screening by the Ministry of Food and Drug Safety. However, adverse reactions are unavoidable according to immunity and or personal characteristics like other medicine or medical supplies.
- Adverse reactions after vaccination can be divided into minor reactions, systemic reactions, and allergic reactions. Most frequently, the injection area hardens, swells, reddens, or warms up in a minor reaction, and will disappear in 1 or 2 days.

### What to do with the adverse reaction?

- Parents should observe for severe allergic reactions, a high fever, or extraordinary behavioral changes after the vaccination.
  - \* Allergic reactions include rash, a swollen face or neck, an infrequent pulse, and dyspnea, which will occur within several minutes after the vaccination.
- If such symptoms continue or other systemic abnormal reactions occur, please consult with the doctor and report to the nearest public health center or our official website (<https://nip.kdca.go.kr>) at the "Adverse Reaction Report".

### National Vaccination Injury Compensation Program

- The government will deliberate the causality of the adverse reactions and compensate the treatment cost.
  - ※ For more details, please contact the medical institution or public health center and visit the website (<https://nip.kdca.go.kr>).

## National Vaccination Program for Children

Vaccinations are fully supported by the government for children to prevent infectious diseases.

### ④ National Vaccination Program for Children

#### □ Target Group: children under 12

- Tuberculosis (BCG, intradermal) for children under 59 months old (but, for children over 3 months, provided only when TST negative )
- Hib, PCV: not recommended for children over 5 years, supported only for children under 59 months
- Hepatitis A: children born after January 1st, 2012
- HPV (Human Papilloma Virus) female adolescent at age of 12 years
  - ※ Contact the nearest public health center or designated medical clinic for more details

#### □ Types of Vaccines Supported: 17 in total

- |   |  |
|---|--|
| • Tuberculosis (BCG, intradermal)   | • Measles/Mumps/Rubella(MMR)                           |
| • Hepatitis B(HepB)   | • Varicella(VAR)                                       |
| • Diphtheria/Tetanus/Pertussis(DTaP)  | • Inactivated Japanese Encephalitis Vaccine (IJEV)     |
| • Tetanus/Diphtheria (Td)   | • Live-attenuated Japanese Encephalitis Vaccine (LJEV) |
| • Tetanus/Diphtheria/Pertussis(Tdap)  | • Hepatitis A(HepA)                                    |
| • Polio (IPV)   | • Human Papilloma Virus (HPV) Infection(HPV2, HPV4)    |
| • Diphtheria/Tetanus/Pertussis/Polio (DTaP-IPV)                             | • Influenza (IIV)                                      |
| • Haemophilus Influenzae Type B(Hib)  |  |
| • Diphtheria/Tetanus/Pertussis/Haemophilus Influenzae Type B (DTaP-IPV/Hib) |  |
| • Pneumococcus  |  |

※ For the infectious diseases which have a risk of infecting fetus or children, adults (guardians) who are not yet immunized for the infectious diseases should have a vaccination after consulting with the doctor according to the vaccination schedule.

#### □ Where to get Vaccinated: Nearest Medical Institution or Public Health Center

- ※ You can find the designated medical institutions from the website (<https://nip.kdca.go.kr>), mobile application, or public health center guide book.
- ※ Since the types of vaccines that can be administered may differ, parents (guardians) need to check for availability before the visit.

#### Finding Designated Medical Institution for Immunization and Vaccination Availability

- Visit the website and find the Immunization Guide -> Type in your area (city, province, county, district), vaccine types or the name of medical institution at the finding the designated institution menu at the middle of the screen -> Check the found information
- Use the mobile app and find the Immunization Guide -> Type in your area (city, province, county, district), vaccine types or the name of medical institution at the finding the designated institution menu at the middle of the screen -> Check the found information

#### □ Immunization Preparation

- Bring the documents that can confirm the personal information of your child for accurate immunization (resident registration number, name, etc.), and immunization note is preferred.

In case the birth registration is postponed for more than 1 month for unavoidable reasons, Free-of-charge vaccinations are possible when receiving the management number from the public health center.

#### □ New born un-registered children within 30 days of birth

- Free-of-charge vaccination is possible when registering the new born's information (date of birth and gender) along with the mother's information (name and resident registration number when filling in the pre-vaccination checklist).

\* In case of registering the data of a guardian other than the birth mother, the vaccination records might not be integrated with the birth registration of the child. In principle, the mother's information shall be registered, but if a guardian's information, other than the mother, may be registered for unavoidable reasons.

※ The vaccination records are automatically integrated under the child's resident registration number after birth registration.

#### □ Foreigner who could not register a birth within 1 month after birth or does not have an alien registration number

- Free-of-charge vaccinations are possible at the nearest public health center or designated medical institution by getting a temporary registration number for vaccinations at the public health center using the guardian's ID.
- However, a foreigner that does not have an alien registration number (except for the person who is excluded from getting an alien registration number according to the Immigration Control Law) can have free-of-charge vaccinations only at public health centers but can have vaccinations at a medical institute at his/her expense.

※ The vaccination records should be requested at the public health center if the birth is registered or an alien registration number is issued after vaccination.

#### How to Get Temporary Registration Number for Vaccination

1. A guardian visits the nearest public health center with his/her ID and applies for the issuance of a temporary registration number for the child's vaccination.
  - Parent Priority: 1. Mother, 2. Father, 3. Others
2. The registration number can be issued on the day of application if it is not duplicated

※ Contact the nearest public health center to change the personal information for the vaccination management registration at the Integrated Immunization Management System.

## National Vaccination Program for Children

### Perinatal Hepatitis B Infection Prevention Program

**Perinatal Hepatitis B** infection refers to the disease a newborn is infected with by being exposed to the mother's blood or body fluids which contain the Hepatitis B virus before or after birth so that Hepatitis B virus is passed to the newborn.

90% of the infected grown-ups fully recover without any complications, but 90 % of infected newborns become chronic virus carriers who could develop fulminant hepatic failure, liver cirrhosis, or liver cancer.

Immunoglobulin, Hepatitis B vaccination, antigen, and antibody test are fully covered by the government to prevent perinatal Hepatitis B infection.

**Recipients:** babies born from mothers who are positive for Hepatitis B surface antibody (HBsAg) or e-antigen (HBeAg), and those who submit the mother test result sheet and who agree to the provision of personal information.

\* Mothers who are test positive for HBsAg or HBeAg during pregnancy or 7 days after giving birth

**Details:** the cost for immunoglobulin, Hepatitis B vaccination, and quantitative antigen, and antibody test

※ Routine Hepatitis B vaccinations (dose 1-3), re-vaccination, and re-examination fee according to the follow-up antigen and antibody examination result (3 doses maximum)

### Healthy Women's First Step Clinic Program

Providing consultation, diagnosis, and vaccination services to female adolescents who are experiencing major physical and emotional transitions to help them grow into healthy women.

\* 59% of female adolescents have their first period before 6th grade and 4.6% of high school senior girls have had their first sex. (2015 Youth Health Behavioral Research, KDCA)

**Subjects:** female adolescents at the age of 12

**Details:** health consultation for female adolescents and HPV vaccination (at no expense, 2 doses, 6 months apart)

**Supported Vaccines:** Gardasil (HPV4), Cervarix (HPV2)

※ Except for Gardasil 9

## Vaccination Records Confirmation Program for Elementary and Middle School Entry

### Vaccination Records Confirmation Program for Elementary and Middle School Entry

The program aims to check the vaccination history of children who are entering elementary or middle school and recommend vaccinations to unvaccinated children to prevent the children from getting infected at school and to protect the health of all school children.

\* Article 31 of the Infectious Disease Prevention and Control Act and Article 10 of the School Health Act

**Subjects:** all children who enter elementary school and middle school

**Vaccinations to be confirmed**

- (Elementary School) 4 types of vaccinations required for the 4-6-year-old children

※ Dose 5 of DTaP, Dose 4 of IPV, Dose 2 of MMR, and Japanese Encephalitis (Dose 4 of inactivated vaccine or Dose 2 of a live attenuated vaccine)

(Dose 4 of DTaP-IPV is same as dose 5 of DTaP and dose 4 of IPV)

- (Middle School) 3 types of vaccinations required for 11-12-year-old children

※ Dose 6 of Tdap (or Td), Japanese Encephalitis (dose 5 inactivated vaccine or dose 2 live-attenuated vaccine, Dose 1 HPV (only for girls))

\* Tdap (or Td) vaccination for the children aged 7 - 10 with incomplete DTaP Immunization history and follow-up vaccination (Tdap or Td) to the children aged 11 - 12 with a complete immunization history.

• In case the immunization records are registered in the system, it can be checked at the immunization guide website or mobile application and it is not necessary to submit the immunization certificate to the school.

• Those who are prohibited from vaccination should request the medical institution that provides diagnosis to register the cause of prohibition in the system.

#### Those who are prohibited from vaccination

- Those showing anaphylaxis (severe allergy) reaction to vaccine ingredients after the previous vaccination
- Those who develop encephalitis with unknown cause within 7 days after the administration of the pertussis vaccination
- Immune deficient person or immunosuppressant users



## Remind/Recall Vaccination Schedule Notice

The service sends parents a vaccination schedule notice through SMS as a reminder in case the vaccination schedule is behind one month or longer.

### How to Use

- Provide a correct telephone number when filling in the 'pre-vaccination checklist' and agree with the receiving SMS messages to get remind/recall message regarding the next vaccination.

Agreement on the personal information treatment for the vaccination process	Self <input checked="" type="checkbox"/> (legal representative, guardian)
I agree with receiving SMS messages regarding the next routine vaccination schedule and its completion. * If you do not agree, you will not receive the information that you do not agree upon.	<input type="checkbox"/> Yes <input type="checkbox"/> No

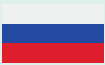











\* You can request an information change at the nearest public health center or the medical institution that administered the vaccination when your telephone number is changed or you want to check and change whether to accept the SMS notices or not. It is also available through the website and mobile app.

\* Check your telephone number registration at the nearest public health center or the medical institution you visited for the vaccination if you agree with the SMS notice, but did not receive the notice.

### Application for Multi-language SMS Messages Notice Service

- Ask the doctor who administered the vaccination for the SMS notices in your preferred language after the immunization to get vaccination schedule reminders

→ Languages in Service for SMS Notice (12 languages)

 Russian	 Mongolian	 Vietnamese	 English	 Japanese	 Chinese
 Cambodian	 Thai	 Filipino	 Uzbek	 Laotian	 Nepalese

## CHAPTER 2

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# Tuberculosis

Intradermal Bacille Calmette-Guérin, Intradermal BCG

## Tuberculosis Immunization Subject and Schedule

### TB Immunization Subjects and Schedule

- For All infants and toddlers
- Recommended immunization schedule: 1 dose after 4 weeks from birth

### Precautions needed in the following cases: (Consult the doctor)

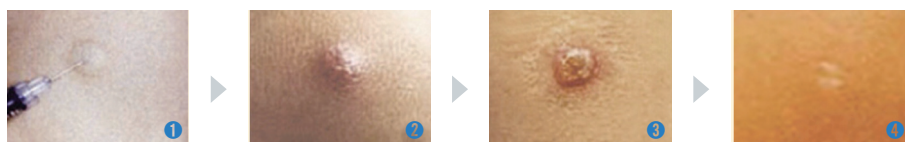
- Being born prematurely or having a severe disease which requires hospitalization (postpone the immunization until being discharged from the hospital)
- ※ Postpone the immunization until the disease has improved in case of having a moderate or severe acute stage disease. Go by the schedule if the child has mild disease, such as an upper respiratory tract infection.

### Vaccination is prohibited in the following cases:

- Immune deficient people such as those with congenital immunodeficiency syndrome, HIV leukemia, or lymphoma
- Immune-suppressed person due to steroid treatment, anticancer treatment, and radiation therapy
- Having a burn or skin infection on the area to be injected

### Normal Progress after BCG Intradermal Vaccination

Times after vaccination	Description
Right after Vaccination	The injection area swells up and goes down within 10-15 minutes <sup>①</sup> .
1-2 weeks	No specific symptoms.
2-4 weeks	A red spot appears on the injection area and creates a small bud which becomes bigger and solidified <sup>②</sup> . After the solid area becomes softer making a pus pocket. You can find a lump in the armpit or the neck lymph nodes, but treatment is unnecessary unless it develops into pyrolytic lymphadenitis. It disappears in months but can last up to 1 year.
4 - 6 weeks	Pus comes out of the skin and creates an ulcer.
6-9 weeks	The ulcer is healed and scab forms over it. Pus comes out if pressing on the scab but gradually does not come out later <sup>③</sup> .
9-12 weeks	The scab comes off leaving a 2-3 mm wide cicatrix <sup>④</sup> .



## Safety and Adverse Reactions of TB Vaccinations

### Safety of TB Vaccinations

- BCG vaccines rarely generate severe adverse reactions. However, it can cause adverse reactions, such as severe allergic reactions and local reactions such as lymphadenitis.

### What are the possible adverse reactions after tuberculosis vaccination?

- Local adverse reactions
  - Localized lymphadenitis, abscesses, ulcers, keloid, koch phenomenon etc.
- Systemic adverse reactions (very rare)
  - Very rarely osteitis, osteomyelitis, disseminated BCG infection, etc.

## Infectious Disease Information for TB

### What is TB?

- Tuberculosis is a disease caused by bacteria that is spread through the air from person to person. It mainly affects the lungs but can develop in any organ.
- In the case of having respiratory tuberculosis, in which tuberculosis bacteria is discovered in sputum (phlegm), it is highly infectious but is rarely infectious if being found in other organs.
- TB bacillus infections show no symptoms as latent tuberculosis, but 510 % develop TB.
- It is more likely to have TB in younger children infected with TB bacillus and disseminated TB or Tuberculous meningitis has a high lethality rate.

### Spread of TB

- Mainly transmitted through coughing or sneezing of TB patients. TB bacillus in the respiratory secretions primarily passes the infectious disease.

# Hepatitis B

## Vaccination Subject and Schedule for Hepatitis B

### ⦿ Vaccination Subject and Schedule of Hepatitis B

- For all newborn babies and infants
- Recommended Immunization Schedule:

Hepatitis B	Immediately after birth	1 mo.	6 mo.
	1st dose (routine)	2nd dose (routine)	3rd dose (routine)

### ⦿ Precautions with vaccination in the following cases: (Consult the doctor)

- Vaccination is allowed for the children with mild diseases, such as the flu, but it would be better to postpone the immunization until recovery in case of having a moderate or severe disease.

### ⦿ Immunization is prohibited in the following cases:

- In case of a person showing anaphylaxis (severe allergy) reaction after a previous Hepatitis B vaccination
- In the case of a person showing anaphylaxis (severe allergy) reaction to the Hepatitis B vaccination

### ⦿ Necessity for Antibody Test after Hepatitis B Vaccination

- The test is not needed to check whether antibodies are generated after the vaccination of healthy adults or children.
- However, the following high-risk groups need to have an antibody test after three doses of vaccination:
  - Family member of Hepatitis B virus carrier
  - Patients who have frequent transplantations of blood products
  - Patients who have frequent blood transfusions
  - Immune deficient person, such as HIV infected patients
  - Medical staff (in case of repeated exposures to contaminated secretions from Hepatitis B patients or those with the virus)
  - Persons who have sexual contact with Hepatitis B virus carriers
  - A newborn from a Hepatitis B positive mother

### ⦿ No additional vaccination is needed for Hepatitis B

- The antibody amount reaches the highest level 1–3 months after the third dose of the Hepatitis B vaccination and the value decreases over time, but the immune memory will be maintained. Therefore, healthy children and adults do not need an antibody test or subsequent additional doses of the vaccination after the completion of the vaccination series.

## Safety and Adverse Reactions after Hepatitis B Vaccination

### ⦿ Safety of the Hepatitis B Vaccination.

- The Hepatitis B vaccination could cause adverse reactions, such as severe allergic reactions, but those are very rare and most of the time slight temporary symptoms improve in days.
- Localized adverse reactions:
  - Pain, swelling, and induration (hardening) in the injection area, etc.
- Systemic adverse reactions:
  - Fever, fatigue, nausea, arthralgia, skin rash

## Infectious Disease Information on Hepatitis B

### ⦿ What is Hepatitis B?

- Hepatitis B can cause acute or chronic liver infection caused by the Hepatitis B virus.
- In the case of being infected with the Hepatitis B virus as a newborn baby, the baby can become a chronic Hepatitis B virus carrier.
- The symptoms shown among children and adults include mainly a loss of appetite, fatigue, diarrhea, nausea, and jaundice. Most infections are recovered, except for 5~10%, which become chronic Hepatitis B patients.
- 1 out of 4 chronic Hepatitis B patients will develop chronic hepatitis, hepatocirrhosis, liver cancer, etc. therefore prevention is of the utmost importance.

### ⦿ Spread of Hepatitis B Virus:

- Through blood or secretion of an infected person
  - Through mucous membrane, contaminated blood, secretion (ex.: blood transfusion, use of contaminated syringes, blood dialysis, invasive examinations, etc.)
  - Perinatal infection from Hepatitis B positive mother to a newborn
  - Sexual contact with a Hepatitis B virus carrier
    - ※ Hepatitis B is not transmitted through daily activities (sneezing, coughing, hugging, food sharing, breastfeeding, etc.)

## DTaP Immunization Subjects and Schedule

### DTaP Immunization Subjects and Schedule

- For all infants and toddlers
- Recommended Immunization Schedule:

DTaP	2 mo.	4 mo.	6 mo.	15–18mo.	4–6 Years
	1 <sup>st</sup> dose (routine)	2 <sup>nd</sup> dose (routine)	3 <sup>rd</sup> dose (routine)	4 <sup>th</sup> dose (follow-up)	5 <sup>th</sup> dose (follow-up)

### Precautions with the immunization in the following cases: (consult the doctor)

- In case of having a high fever over 40°C within 48 hours after the previous vaccination
- Conditions such as despondency or shock-like conditions (low tension low reaction) that occur within 48 hours from the previous vaccination
- Continuous crying for more than 3 hours and that cannot be soothed within 48 hours from the previous vaccination
- Convulsion that occurred within 3 days of the previous vaccination regardless of manifestation of fever
  - ※ Postpone immunization until the disease is improved in the case of a moderate or severe acute stage disease and go by the schedule if the child has mild disease, such as an upper respiratory tract infection.

### Vaccination is prohibited in the following cases:

- In the case of showing anaphylaxis (severe allergy) reaction after the previous DTaP vaccination
- In the case of showing anaphylaxis (severe allergy) reaction to DTaP vaccination ingredients
- In case of showing acute encephalitis with an unknown cause within 7 days of the previous vaccination (ex. localized and systemic convulsion that last for hours)

### Combined Vaccine containing DTaP: DTaP-IPV, DTaP-IPV/Hib, DTaP-IPV-HepB-Hib

- The combination vaccine DTaP-IPV/Hib and DTaP-IPV-HepB-Hib has been assessed to show similar effectiveness with the separate administration of DTaP-IPV combined vaccine, the Hib vaccine and hepatitis B vaccine along with similarity in terms of safety and adverse reactions, both local and systemic including pain, redness, and fever in the injection area.
- The administration of the combined vaccines can reduce the number of doses from 9 to 3.
- The combined vaccine of DTaP-IPV, which contains DTaP, can be administered in three doses of the routine immunization (2, 4, 6 mos) and follow-up immunization.
  - ※ The approval for the follow-up vaccination can differ by manufacturer, which needs to be confirmed before the vaccination.
- The combination vaccine of DTaP-IPV-HepB-Hib and DTaP-IPV/Hib, which contains DTaP, can be administered in three doses of the routine immunization (2, 4, 6 mo.).
  - ※ For the routine vaccination (2,4,6 months), the vaccine containing DTaP produced by the same manufacturer shall be recommended.
  - ※ DTaP-IPV (Tetraxim), DTaP-IPV/Hib (Pentaxim) and DTaP-IPV-HepB-Hib(Hexamim) are interchangeable as they are produced by the same manufacturer. It could be unnecessary or too early for immunization according to the Hib vaccination schedule, therefore, the immunization schedule needs to be checked in advance.
  - \* DTaP-IPV-HepB-Hib combined vaccine is not supported by National Vaccination Program.

## Safety and Adverse Reactions of DTaP Vaccination

### Safety of DTaP Vaccination

- The DTaP vaccination could cause adverse reactions such as severe allergic reactions, but the risk from adverse reactions is far less than the risk of getting Diphtheria, Tetanus, and Pertussis.

### What are the possible adverse reactions after DTaP vaccination?

- **Local adverse reactions:** redness, swelling, pain, abscess in the injection area, rarely Arthus reaction, etc.
  - \* Severe pain and swelling from shoulder to the elbow, increased frequency with more doses
- **Systemic adverse reactions:**
  - fever, whining, headache, fatigue, body rash, etc.
  - (very rare) high fever of over 39°C, agitation of more than three hours, brachial plexitis, anaphylaxis (severe allergy), etc.
    - \* Brachial plexitis refers to an infection on the fasciculus coming from the spinal cord to the arms, it shows the symptom of muscular weakness accompanied with severe pain.

## Infectious Disease Information on Diphtheria/Tetanus/Pertussis

### What is Diphtheria?

- Diphtheria is an infection caused by a bacterium in the throat and tonsils. It can lead to difficulty breathing, heart failure, paralysis, and even death.

### Spread of Diphtheria

- Transmitted through contact with the bacteria discharged from the respiratory system or skin lesion.



A membrane covering the throat of Diphtheria infected child

### What is Tetanus?

- Tetanus is a serious disease caused by a bacterial toxin that affects our nervous system, leading to stiffness in the muscles. Tetanus can interfere with your ability to swallow and breathe, can paralyze your body, and threaten your life.

### Spread of Tetanus

- The bacteria exist in the environment such as in soils and can be transmitted through a contaminated injury.



Tetanus infected child

### What is Pertussis?

- The bacteria Bordetella pertussis causes respiratory inflammation and a paroxysmal cough and those symptoms can last for weeks.
- It can also cause complications such as pneumonia, convulsion, and brain damage, and even lead to death.

### Spread of Pertussis

- Mainly through the respiratory system, such as cough or sneeze from a person.



The infected child having difficulty in breathing due to its characteristic whooping cough

# Tetanus/Diphtheria/Pertussis

## Tdap/Td Immunization Subjects and Schedule

### Tdap/Td Immunization Subjects and Schedule

- For all young children

#### • Recommended Immunization Schedule:

1 dose of Tdap vaccine for children aged 11-12 years old

※ Tdap vaccine to be administered at age of 11-12 years and Td vaccine to be administered as a follow-up vaccination every 10 years

(For those who are prohibited from vaccinations (ap) including Pertussis, the Td vaccine can be administered as an alternative)

※ 1 dose of Tdap vaccination for the children aged 7 - 10 years with an incomplete DTaP Immunization history and follow-up Tdap vaccine can be administered to the children aged 11 - 12 years.

### ⦿ Precautions with vaccination in the following cases: (Consult the doctor)

- The vaccination is allowed for children with mild diseases such as the flu, but it would be better to postpone the immunization until recovery in case of moderate or severe diseases.

### ⦿ Vaccination is prohibited in the following cases:

- In case of a person showing anaphylaxis (severe allergy) reaction after the previous Tdap/Td vaccination
- In case of a person showing anaphylaxis (severe allergy) reaction to Tdap/Td vaccination ingredients
- In case of a person showing acute encephalitis with an unknown cause within 7 days of the previous vaccination (ex. localized and systemic convulsion that last for hours)

### ⦿ Why are Tdap or Td vaccinations needed?

- The DTaP vaccine is administered to young children to prevent Diphtheria, Tetanus, and Pertussis, but the antibody amount decreases down to the unpreventable level after several years and the vaccination requires follow-up vaccinations.
- As a follow-up vaccination, Tdap vaccine is to be administered at an age of 11 - 12 years along with Td vaccine at an interval of 10 years afterward (For those who are prohibited from vaccination (ap) including Pertussis, Td vaccine can be administered as an alternative)
  - ※ The Tdap vaccine is a new type of the existing Td (Prevention of Tetanus/Diphtheria) vaccine combined with an additional Pertussis vaccine.

Tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccine, adsorbed, Tdap / Tetanus and diphtheria toxoids adsorbed, Td

## Safety and Adverse Reactions of Tdap/Td Vaccinations

### ⦿ Safety of Tdap/Td Immunization

- The Tdap or Td vaccination could cause adverse reactions such as severe allergic reactions, but those are very rare and most of the time slight temporary symptoms improve in days.

### ⦿ What are the possible adverse reactions after Tdap/Td vaccination?

#### • Local adverse reactions:

- Redness, swelling, pain, abscess in the injection area, rarely Arthus reaction, etc.
  - \* Severe pain and swelling from shoulder to the elbow, increased frequency with more doses

#### • Systemic adverse reactions:

- Headache, fatigue, digestive symptoms, fever, lymphadenitis, headache, rash, neurological adverse reaction, etc.

## Infectious Disease Information of Tetanus/ Diphtheria/ Pertussis

### ⦿ What is Tetanus?

- Tetanus is a serious disease caused by a bacterial toxin that affects our nervous system, leading to stiffness in the muscles. Tetanus can interfere with your ability to swallow and breathe, can paralyze your body, and threaten your life.



Tetanus infected child

### ⦿ Spread of Tetanus

- The bacteria exist in the environment such as in soils and can be transmitted through a contaminated injury.

### ⦿ What is Diphtheria?

- Diphtheria is an infection caused by a bacterium in the throat and tonsils. It can lead to difficulty breathing, heart failure, paralysis, and even death.



A membrane covering the throat of Diphtheria infected child

### ⦿ Spread of Diphtheria

- Transmitted through contact with the bacteria discharged from the respiratory system or skin lesion.

### ⦿ What is Pertussis?

- The bacteria Bordetella pertussis causes respiratory inflammation and a paroxysmal cough and those symptoms can last for weeks.
- It can also cause complications such as pneumonia, convulsion, and brain damage, and even lead to death.



The infected child having difficulty in breathing due to its characteristic whooping cough

### ⦿ Spread of Pertussis

- Mainly through the respiratory system, such as cough or sneeze from a person.

# Polio

Inactivated poliovirus vaccine, IPV

## Vaccination Subjects and Schedule of Polio

### Vaccination Subjects and Schedule of Polio

- For all infants and toddlers
- Recommended Immunization Schedule:

Polio	2 mo.	4 mo.	6 mo.	4-6 Years
	1 <sup>st</sup> dose (routine)	2 <sup>nd</sup> dose (routine)	3 <sup>rd</sup> dose (routine)	4 <sup>th</sup> dose (follow-up)

### Precaution with vaccination in the following cases: (Consult the doctor)

- The vaccination is allowed for the children with mild diseases such as the flu, but it would be better to postpone the immunization until recovery in case of moderate or severe stage diseases.

### Vaccination is prohibited in the following cases:

- In the case of showing anaphylaxis (severe allergy) reaction after the previous IPV vaccination
- In case of showing anaphylaxis (severe allergy) reaction to IPV vaccination ingredients (eg. neomycin, streptomycin, polymyxin B, etc.)

### Combined Vaccine containing IPV: DTaP-IPV, DTaP-IPV/Hib, DTaP-IPV-HepB-Hib

- The combination vaccine containing IPV, DTaP-IPV/Hib and DTaP-IPV-HepB-Hib has been assessed to show similar effectiveness with the separate administration of DTaP-IPV combined vaccine, Hib vaccine and hepatitis B vaccine along with similarity in terms of safety and adverse reactions.
- The DTaP-IPV combined vaccine which contains IPV can be administered in three doses of the routine immunization (2, 4, 6 mo.) and a follow-up immunization (4 - 6 years)
  - ※ The approval for follow-up vaccinations can differ by manufacturer, which needs to be confirmed before vaccination.
- The DTaP-IPV/Hib combined vaccine which contains IPV can be administered in three doses of the routine immunization (2, 4, 6 mo.)
  - ※ For the routine vaccination (2,4,6 mo.), the DTaP-IPV, DTaP-IPV/Hib or DTaP-IPV-HepB-Hib combined vaccines produced by the same manufacturer shall be recommended.
  - ※ DTaP-IPV (Tetraxim), DTaP-IPV/Hib (Pentaxim) and DTaP-IPV-HepB-Hib(Hexamim) are interchangeable as they are produced by the same manufacturer. It could be unnecessary or too early for immunization according to the Hib vaccination schedule, therefore, the immunization schedule needs to be checked in advance.
  - \* DTaP-IPV-HepB-Hib combined vaccine is not supported by National Vaccination Program.

## Safety and Adverse Reactions of Poliomyelitis Vaccination

### Safety of Poliomyelitis Vaccination

- Inactivated polio vaccines for injection have rarely been reported to cause severe reactions, and could have symptoms of pain and swelling in the injection area like other vaccines, but the symptoms are mild most of the time.

### What are the possible adverse reactions after polio vaccination?

- Local adverse reactions:
  - Redness, pain, and induration (hardening), pressure pain in the injection area
- Systemic adverse reactions:
  - (very rare) anaphylaxis (severe allergy) when overreacting to streptomycin and neomycin

## Infectious Disease Information of Poliomyelitis

### What is Poliomyelitis?

- The polio infection does not develop symptoms in most of the cases, but some develop poliomyelitis or meningitis and rarely paralytic poliomyelitis, which paralyzes the arms and legs.
- The paralytic poliomyelitis could lead to permanent disability and paralysis of the respiratory muscles, which could lead to death.



Leg muscle atrophy caused by polio

### Spread of Poliomyelitis

- The virus is transmitted by person-to-person mainly through the fecal-oral route.

### Occurrence and Prevention of Polio

- No case of polio has been reported since 1984 in Korea, but occurrences are reported in Afghanistan, Pakistan, and Nigeria.
- It is recommended to complete the vaccination in accordance with the immunization schedule to prevent polio in case of having a travel plan to a polio-infected area.

# Haemophilus Influenza Type B

## Hib Vaccination Subjects and Schedule

### Hib Vaccination Subjects and Schedule

- For all infants and toddlers
- Recommended Immunization Schedule:

Hib	2 mo.	4 mo.	6 mo.	12-15 mo.
	1 <sup>st</sup> dose (routine)	2 <sup>nd</sup> dose (routine)	3 <sup>rd</sup> dose (routine)	4 <sup>th</sup> dose (follow-up)

※ Not recommended for healthy children over 5 years (60 months) old in general

### Precaution with vaccination in the following cases: (Consult the doctor)

- The vaccination is allowed for the children with mild diseases such as the flu, but it would be better to postpone the immunization until recovery in case of moderate or severe stage diseases.

### Vaccination is prohibited in the following cases:

- In case of a person showing anaphylaxis (severe allergy) reaction after the previous Hib vaccination
- In case of a person showing anaphylaxis (severe allergy) reaction to Hib vaccination ingredients

### Combined Vaccine containing Hib: DTaP-IPV/Hib and DTaP-IPV-HepB-Hib

- The combination vaccine DTaP-IPV/Hib containing Hib and DTaP-IPV-HepB-Hib has been assessed to show similar effectiveness with the separate administration of DTaP-IPV combined vaccine, Hib vaccine and hepatitis B vaccine along with similarity in terms of safety and adverse reactions, both local and systemic including pain, redness, and fever in the injection area.
- The DTaP-IPV/Hib and DTaP-IPV-HepB-Hib, the combined vaccine which contains Hib can be administered for three doses of the routine immunization (2, 4, 6 mo.).
  - ※ For the DTaP routine vaccination (2,4,6 months) with the DTaP-IPV,DTaP-IPV/Hib or DTaP-IPV-HepB-Hib combined vaccines, the products produced by the same manufacturer shall be recommended.
  - ※ DTaP-IPV (Tetraxim), DTaP-IPV/Hib (Pentaxim) and DTaP-IPV-HepB-Hib(Hexamim) are interchangeable as they are produced by the same manufacturer. It could be unnecessary or early according to the Hib vaccination schedule, therefore, the immunization schedule needs to be checked in advance.
  - \* DTaP-IPV-HepB-Hib combined vaccine is not supported by National Vaccination Program.

## Safety and Adverse Reactions of Hib Vaccination

### Safety of Hib Vaccination

- The Hib vaccination could cause adverse reactions, such as severe allergic reactions, but those are very rare and most of the time slight temporary symptoms improve in days.

### What are the possible adverse reactions after Hib vaccination?

- Local adverse reactions:
  - Swelling, redness, pain in the injection area
- Systemic adverse reactions:
  - (rare) fever, agitation (very rare) anaphylaxis (severe allergy), etc.

## Infectious Disease Information of Haemophilus Influenza

### What is Haemophilus influenza?

- Haemophilus Influenza was argued by some to be the cause of Influenza.
- Two major categories of H. influenza were defined: the unencapsulated strains and the encapsulated strains. The six generally recognized types of encapsulated H. influenza are: a, b, c, d, e, and f. 95 % of invasive diseases caused by influenza among young children are caused by Hib. Haemophilus Influenza type b.
- Hib causes invasive infectious diseases such as meningitis, epiglottitis, pneumonia, arthritis, and cellulitis and occurs mainly among children under 5 years of age.
  - ※ Higher risk of Invasive Hib infection: functional or anatomic asplenia caused by sickle cell disease, splenectomy, etc. or lowered immunity caused by immunodeficiency disease (especially, IgG2 deficiency), complement deficiency disease, anticancer therapy, HIV, recent stem cell transplantation.
  - ※ It is not recommended for children over 5 years of age in general, however, the vaccination is required for those with a higher risk of Invasive Hib infection. Consult the doctor for immunization.

### Spread of Haemophilus Influenza Type B

- Mainly infected with droplets secreted through a cough or sneeze.

# Pneumococcus

Pneumococcal conjugate vaccine, PCV/  
Pneumococcal polysaccharide vaccine, PPSV

## Pneumococcus Vaccination Subject and Schedule

### Ⓧ Pneumococcus Vaccination Subject and Schedule

#### ☐ Pneumococcal conjugate vaccine(PCV)

- For all infants and toddlers
- Recommended Immunization Schedule:

Vaccine type	2 mo.	4 mo.	6 mo.	12-15 mo.
PCV10	1 <sup>st</sup> dose (routine)	2 <sup>nd</sup> dose (routine)	3 <sup>rd</sup> dose (routine)	4 <sup>th</sup> dose (follow-up)
PCV13				

※ Interchange between PCV10 and PCV 13 vaccines is not recommended.

※ In general, vaccination is not recommended for healthy children over 5 years of age (60 months).

#### ☐ Pneumococcal polysaccharide vaccine(PPSV)

- Children over 2 years of age -64 years who have a high risk of having a pneumococcus infection
- The elderly- over 65 years of age

### Ⓧ Precautions with vaccination in the following cases: (Consult the doctor)

- Vaccination is allowed for the children with mild diseases such as the flu, but it would be better to postpone the immunization until recovery in case of moderate or severe stage diseases.

### Ⓧ Immunization is prohibited in the following cases:

- In case of a person showing anaphylaxis (severe allergy) reaction after the previous pneumococcus vaccination
- In case of a person showing anaphylaxis (severe allergy) reaction to pneumococcus vaccination ingredients

### Ⓧ Pneumococcus Vaccine Types and Prevention Effect

- Pneumococcal conjugate vaccine (Pneumococcal conjugate vaccine, PCV)
- There are PCV10 and PCV 13, and both are effective in preventing invasive diseases, such as bacteremia, meningitis, and acute middle ear infections caused by serotypes included in the two vaccines (1, 4, 5, 6B, 7F, 9V, 14, 18C, 19F, 24F).

Vaccine Type	Serotypes contained in the vaccine
PCV10	10 types (1, 4, 5, 6B, 7F, 9V, 14, 18C, 19F, 23F)
PCV13	13 types (1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, 23F)

- PCV10 and PCV13 vaccines are not recommended to be used interchangeably, therefore routine and follow-up vaccinations for the children under 2 shall use the same vaccines manufactured by the same manufacturer.
- In general, healthy children over 5 years of age are not recommended to have PCV vaccinations but can be considered for those with a higher risk of pneumococcus infection. Consult the doctor for vaccination.

\* High risk of pneumococcus infection:

- (Normal immunity)- chronic cardiac disorder, chronic lung disorder, diabetes, cerebrospinal fluid leak, cochlear implant, chronic liver diseases
- (Functional asplenia or anatomic asplenia)-, sickle cell anemia, hemoglobulins, asplenia, or spleen function disorder
- (Lowered Immunity)- HIV, chronic renal failure, diseases that require immunosuppressant or radiation therapy (malignant tumor, leukemia, lymphoma, Hodgkin disease) or solid organ transplant, congenital immunodeficiency diseases

• Pneumococcal Polysaccharide Vaccine

\* It is effective in preventing invasive diseases that are caused by 23 serotypes contained in the vaccine.

Vaccine Type	Serotypes contained in the vaccine
PPSV23	23 Types (1, 2, 3, 4, 5, 6B, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15B, 17F, 18C, 19A, 19F, 20, 22F, 23F, 33F)

\* PPSV 23 is recommended for the group of those aged 2 - 64 years with a high risk of pneumococcus and who are vaccinated against pneumococcus.

## Safety and Adverse Reactions of Pneumococcus Vaccination

### Ⓧ Safety of Pneumococcus Vaccination

- The Pneumococcus vaccination could cause adverse reactions such as severe allergic reactions, but those are very rare and most of the time slight temporary symptoms improve in days.

### Ⓧ What are the possible adverse reactions after pneumococcus vaccination?

- **Local adverse reactions:** pain, swelling, and redness in the injection area, etc.  
\* The frequency of local adverse reactions is higher with PPSV (30-50%) than with PCV (10~20%) and the number of injections has a positive correlation with the frequency of adverse reactions.
- **Systemic adverse reactions:** fever, muscle pain, etc.

## Infectious Disease Information of Pneumococcus

### Ⓧ What is Pneumococcus?

- Pneumococcus (Streptococcus pneumonia) is one of the main causes of invasive infections, such as acute middle ear infections, pneumonia, meningitis, etc.
- Until now, around 90 different types of serotypes have been known and all can cause diseases. However, around 10 out of them make up 60% of the cases for invasive pneumococcosis.
- The serotypes which make the main cause for the invasive pneumococcosis can differ by location and age.
- Invasive pneumococcosis is most frequent among infants, toddlers, children, and the elderly over 65 years of age, but vaccination decreases the incidence rate.

### Ⓧ Spread of Pneumococcus

- It spreads mainly through respiratory nasal mucus (droplets) from one person to another.



# Measles/Mumps/Rubella

## MMR Immunization Subjects and Schedule

### MMR Immunization Subjects and Schedule

- For all infants and toddlers
- Recommended Immunization Schedule:

MMR	12-15 mo.	4 - 6 years
	1 <sup>st</sup> dose	2 <sup>nd</sup> dose

### Precautions with immunization in the following cases: (Consult the doctor)

- A person with severe or severe acute stage diseases
- Within a certain amount of time for a person after the injection of blood products containing antibodies such as immunoglobulin or a blood transfusion
  - ※ Vaccination is allowed as scheduled for the children with mild diseases such as an upper respiratory tract infection, but it would be better to postpone immunization until recovery in case of having moderate or severe acute diseases.

### The immunization is prohibited for the following cases:

- In case of a person having anaphylaxis (severe allergic reactions) to the previous MMR vaccination
- In case of a person having anaphylaxis (severe allergic) reactions to the MMR vaccine ingredient (ex. gelatin, neomycin, etc.)
- Pregnant, lowered immunity, and immunodeficient persons

## Safety and Adverse Reaction of MMR Vaccinations

### Safety of MMR Vaccination

- The MMR vaccination could cause adverse reactions, such as severe allergic reactions but those are very rare and most of the time symptoms which improve in days.

### What are the possible adverse reactions to the MMR vaccination?

- Frequent adverse reactions:
  - Fever, rash, bubononcus, arthralgia, etc.
- Rare adverse reactions:
  - Arthralgia, arthritis, thrombocytopenia, etc.
  - Rarely central nervous system abnormality symptoms (nonpyogenic meningitis, etc.)

## Infectious Disease Information of MMR

### What is Measles?

- Measles is a highly contagious virus that starts with flu-like symptoms, such as a runny nose, cough, and pink eyes but develops a rash all over the body with a high fever.
- Complications such as middle ear infections and pneumonia frequently occur and 1 - 2 out of 1,000 measles patients suffer severe aftereffects, such as encephalitis, which can lead to death.



A child with Measles

### Spread of Measles

- Measles is spread through droplets of secretion or the contaminated objects with secretion from the nose or throat.

### What is Mumps?

- Mumps is a contagious disease that shows the symptoms of a fever, headache, and the swelling of salivary glands under the ears.
- Its complications include meningitis or encephalitis, hearing loss, inflammation of one or both testicles, ovaritis, pancreatitis, and rarely death.



Symptoms of Mumps

### Spread of Mumps

- It spreads through droplets or contact with saliva.

### What is Rubella?

- Rubella is a contagious virus that causes low-grade fever, rash, and lymphadenitis and can be accompanied by arthritis symptoms as complications.
- If a pregnant woman is infected with rubella virus, she could have a miscarriage or the fetus will be born with congenital malformations.



Congenital Rubella Syndrome

### Spread of Rubella

- Rubella can be transmitted by droplets or can be passed to an unborn baby by a mother during pregnancy.

# Varicella

Varicella vaccine, VAR

## Subjects and Schedule of Varicella Vaccination

### Subjects and Schedule of Varicella Vaccination

- For all infants and toddlers
- Recommended Immunization Schedule: 1 dose 12–15 months after birth

### Precautions with immunization in the following cases: (Consult the doctor)

- Severe or severe acute stage diseases
- Within a certain amount of time of a person after the injection of blood products containing antibodies such as immunoglobulin and blood transfusion.
- In case of a person taking aspirin
  - ※ The vaccination is allowed as scheduled for children with mild diseases such as upper respiratory tract infection, but it would be better to postpone immunization until the recovery of moderate or severe acute diseases.

### The immunization is prohibited for the following cases:

- In case of a person having a severe allergic reaction after the previous vaccination
- In case of a person having anaphylaxis (severe allergic) reactions to the varicella vaccine ingredient (ex. gelatin, neomycin, etc.)
- Pregnancy, lowered immunity and immunodeficient persons

## Safety and Adverse Reactions to Varicella Vaccination

### Safety of Varicella Vaccination

- The varicella vaccination could cause adverse reactions, such as severe allergic reactions, but those are very rare and most of the time symptoms improve in days.

### What are the possible adverse reactions after the varicella vaccination?

- Local adverse reactions:
  - Pain, redness and swelling, etc. in the injection area
- Systemic adverse reactions:
  - Fever, herpes zoster, varicella-like rash, very rarely anaphylaxis (severe allergy) etc.

## Infectious Disease Information of Varicella

### What is Varicella?

- Varicella is a highly contagious disease caused by the initial infection with varicella-zoster virus. The disease results in a characteristic skin rash.
- It causes itching, blister-like rash spreading all over the head, face, torso, and limbs sometimes accompanied by tiredness and fever.
- After suffering varicella, herpes zoster with pain could develop.



Varicella blisters

### Spread of Varicella

- Varicella spreads easily from one person to another through droplets of an infected person or direct contact with skin blisters.

### In case of getting a varicella?

- In the case of being diagnosed with chickenpox, the child should stop going to school to prevent the spread of the disease until all the skin lesions are covered with callouses.

# Japanese Encephalitis

## Japanese Encephalitis Immunization Subjects and Schedule

### Japanese Encephalitis Immunization Subjects and Schedule

- For all infants and children
- Recommended Immunization Schedule:

Vaccine type	12-23 mo.	24-35 mo.	6 years	12 years
Inactivated	1st - 2nd dose (routine)	3rd dose (routine)	4th dose (follow-up)	5th dose (follow-up)
Live-attenuated	1st dose (routine)	2nd dose (routine)	-	-

### Precaution with the immunization in the following cases: (Consult the doctor)

#### Inactivated Vaccine

- Moderate or severe acute stage diseases

#### Live-attenuated Vaccine

- Moderate or severe acute stage diseases
- Within a certain amount of time after the injection of blood products containing antibodies such as immunoglobulin and blood transfusion.
  - ※ The vaccination is allowed as scheduled for the children with mild diseases, such as an upper respiratory tract infection, but it would be better to postpone immunization until the recovery in case of moderate or severe acute stage diseases.

### The vaccination is prohibited in the following cases:

#### Inactivated Vaccines

- In case of a person having anaphylaxis (severe allergic) reactions after the previous Japanese Encephalitis vaccination
- In case of a person having a severe allergic reaction to a Japanese Encephalitis vaccine ingredients

#### Live-attenuated Vaccines

- In case of a person having a severe allergic reaction after the previous Japanese Encephalitis vaccine
- In case of a person having a severe allergic reaction to a Japanese Encephalitis vaccine ingredient s
- Pregnancy, problems with the immune system

### Types of Japanese B Encephalitis Vaccinations

- **Inactivated Vaccine:** pathogens are cultured and deactivated with heat or chemicals to be produced as a vaccine.
- **Live-attenuated vaccine:** live Japanese Encephalitis virus is attenuated and produced as a vaccine.

## Inactivated /Live-attenuated Japanese encephalitis vaccine, IJEV/LJEV

Vaccine Type		Vaccine Name
Inactivated Japanese encephalitis vaccine, IJEV	Derived from vero cell	Greencross Cell-cultured Japanese Encephalitis Vaccine Injection/Boryung Cell-culture Japanese encephalitis vaccine
Live-attenuated Japanese encephalitis vaccine, LJEV	Derived from hamster kidney cell	CD JEVAX
	Derived from Chimeric Vero Cell	Imojev

\* Supported by the National Immunization Program.

※ Live-attenuated vaccines and inactivated vaccines are not recommended to be interchanged. This is also true between live-attenuated vaccines.

## Safety and Adverse Reactions of Japanese Encephalitis Vaccination.

### Safety of Japanese Encephalitis Vaccination

- The Japanese Encephalitis Vaccination could cause adverse reactions, such as severe allergic reactions, which are very rare. The adverse reaction to the vaccination is far severe than the complications caused by the Japanese Encephalitis.

### What are the possible adverse reactions to Japanese Encephalitis vaccination?

#### Inactivated Vaccine

- **Local:** pain, redness, and swelling in the injection area and hyperesophoria
- **Systemic:** Fever, headache, fatigue, chill, muscle pain, overreaction, very rarely anaphylaxis (severe allergy), etc.

#### Live-Attenuated Vaccine

- **Local:** pain, redness, and swelling in the injection area, etc.
- **Systemic:** fever, agitation, cough, rash, nausea, very rarely anaphylaxis (severe allergy), etc.

## Infectious Disease Information of Japanese Encephalitis

### What is Japanese Encephalitis?

- Japanese Encephalitis is an infectious disease transmitted by 'Culex tritaeniorhynchus' infected with the Japanese Encephalitis virus.
- 1 out of 250 infected show clinical manifestations as well as mild diseases, such as acute encephalitis, nonpyrogenic meningitis, or atypical recessive disorders.

### Spread of Japanese Encephalitis

- When getting bitten by 'Culex tritaeniorhynchus' infected with the Japanese Encephalitis Virus.

### To avoid mosquito bites?

- Install screens or mosquito nets at home.
- Refrain from outdoor activities at night and exercise caution not to get a mosquito bite when outdoor activities are unavoidable (wear long sleeves and long pants)
- Puddle or rain pools nearby where mosquitoes might inhabit shall be disinfected.

# Hepatitis A

## Hepatitis A Vaccination Subjects and Schedule

### ⦿ Hepatitis A Vaccination Subjects and Schedule

- For Infants of 12–23 months after birth
- Recommended Immunization Schedule:

Hepatitis A	12 - 23 mo.
	Second dose (6 - 12 months after the 1st dose)

\* The first dose is at the age of 12 - 23 months. The second dose to be administered at least 6 months later (with an interval of 6 - 18 months depending on the vaccine type)

### ⦿ Precautions with the vaccination in the following cases: (Consult the doctor)

- The vaccination is allowed for mild diseases such as the flu, but it would be better to postpone the immunization until recovery in case of moderate or severe diseases.

### ⦿ The vaccination is prohibited in the following cases:

- In the case of a person having a fatal anaphylaxis (severe allergy) reaction after the previous Hepatitis A vaccination.
- In the case of a person having anaphylaxis (severe allergy) reaction to the Hepatitis vaccine ingredients.

## Safety and Adverse Reaction of Hepatitis A Vaccination

### ⦿ Safety of Hepatitis A Vaccination

- The Hepatitis A vaccination could cause adverse reactions, such as a severe allergic reaction, but it is very rare, and mild adverse reactions are temporary and improve in days. The adverse reaction to the vaccination is far less risky than the complications caused by a Hepatitis A infection.

### ⦿ What are the possible adverse reactions to Hepatitis A vaccination?

- **Local adverse reaction:** pain, redness and swelling in the injection area
- **Systemic adverse reaction:** feebleness, fatigue, mild fever, rarely anaphylaxis (severe allergy), etc.

## Infectious Disease Information of Hepatitis A

### ⦿ What is Hepatitis A

- Hepatitis A is an acute liver disease caused by the Hepatitis A virus.
- Hepatitis A has the symptoms of fever, feebleness, loss of appetite, nausea, stomachache, and jaundice which lasts for less than 2 months, however, if it lasts more than 6 months or redevelops the infected can develop fulminant hepatic failure.
- The occurrence of the symptoms is related to age and 70% of the children aged less than 6 years old do not have any symptoms but jaundice is most common among other symptoms. However, adolescents and adults have the symptoms most of the time and 40~ 70% are accompanied by jaundice.

### ⦿ Spread of Hepatitis A

- The Hepatitis A Virus can spread through the feces of the Hepatitis A patients, direct contact with the patient, or even through drinking contaminated drinking water or eating contaminated food.

### HPV Vaccination Subjects and Schedule

#### HPV Vaccination Subjects and Schedule

- **Recommended vaccination schedule and subjects:**  
girls who are 12 years old or turning 12 years old within a year.
- **Recommended dose:** 2 doses 6 months apart
  - \* 3 doses required for the initial vaccination at an age of over 14-15 years (vary by vaccine types)
- **Vaccines to be administered:** HPV4 (Gardasil), HPV2 (Cervarix), HPV2 (Gardasil 9)
  - \* Vaccines supported in the program: HPV4 (Gardasil), HPV2 (Cervarix)
  - ※ The same type of vaccines shall be administered for both vaccinations.
- **12-year old girls** can have a health consultation regarding adolescent growth and the first menstruation at a public health center or designated medical institution and two (doses) of the HPV vaccination 6 months apart.
  - ※ The list of designated medical institutions can be checked on the website immunization guide (<https://nip.kdca.go.kr>) or at public health centers.

Adolescents can faint temporarily due to the pain after the vaccination, but it can happen with the administration of other types of vaccines. Sit on a chair with a backrest while getting the vaccination and sit or lie down at the medical institution for 20 - 30 minutes after receiving the vaccination.

- **Precautions with the immunization in the following cases: (Consult the doctor)**
  - Moderate or severe acute stage diseases
    - \* Postpone immunization until the disease is improved in case of moderate or severe acute stage diseases and go by the schedule if the child has mild disease, such as an upper respiratory tract infection.
- **Vaccination is prohibited in the following cases:**
  - In case of a person having a severe allergic reaction after the previous HPV vaccination
  - In case of a person having a severe allergic reaction to the HPV vaccine ingredients

### Safety and Adverse Reaction of HPV Vaccination

#### Possible adverse reactions to HPV Vaccination

- **Local reaction:** pain in the injection area, swelling, redness, etc.
  - \* Pain in the injection area is comparatively frequently (80%) and pain that can interfere with your daily life is reported at a rate of 60%, but most of the time the symptoms are recovered from in days without special treatment.
- **Systemic reaction:** fever, nausea, muscle pain, fainting, very rarely anaphylaxis (severe allergy), etc.
  - \* Severe adverse reactions including severe allergic reactions, such as anaphylaxis can occur but are very rare, and the frequency is not higher compared to other childhood vaccinations.

#### HPV Vaccination Safety Notice

- The most frequently reported adverse reactions such as temporary fainting can be prevented by getting a vaccination while having a seat or lying down and being

observed after the vaccination at the medical institution.

- The vaccination has more benefits in preventing cervical cancer or cervical intraepithelial neoplasia.
  - \* The HPV vaccination is highly preventive (>90%) in High-Risk HPV Type 16 and Type 18 infection and vaccine type -related preinvasive carcinoma (Stage 0, carcinoma in situ) and intrauterine glandular carcinoma of cervical epithelialis (Adenocarcinoma in situ).
  - \* Rather than postponing the vaccination due to unfounded concerns about the adverse reactions, getting the vaccination is highly effective in preventing cancer.
- Concerns have been raised around the vaccine's safety due to the reported adverse reactions in overseas countries, such as Japan. But the cases have not been found to be related to the vaccination and many organizations have announced the safety of the vaccination as follows:
  - \* (WHO) The Global Advisory Committee on Vaccine Safety announced that 270 million doses of HPV vaccine have been administered globally since its approval in 2006 through 2017 and was found to be safe according to the result of the analysis of the data on adverse reactions reported globally including the USA, Australia, Europe, Japan, etc. (The total of 7 review sessions on its the safety have been carried out through July 2017)
  - \* (Japan) 5 cases of combined topalgia were reported, but it is hard to acknowledge the relation to the vaccination as a result of the Japanese Ministry of Health, Labor and Welfare's study. It was temporarily concluded as psychological anxiety (February and July 2014) and 17 medical academies including Pediatric Academy and the Obstetrics and Gynecology Academy announced their statement that the national vaccination for HPV should be resumed. (The year 2016)
  - \* (Domestic) as of September, 2022, 168 cases (0.0083%) of adverse reactions were reported after 202 million cases of vaccinations since the introduction of HPV vaccination part of the national vaccination program and psychogenic reactions such as temporary fainting and dizziness before fainting were the most common adverse reactions which have been reported. (68 cases, 40.5%).

### Infectious Disease Information of HPV

#### What is HPV?

- The highly infectious pathogen is sexually transmitted and infects the skin or genital mucosa and can develop genital warts and related cancers (cervical cancer, vulvar cancer, anal cancer, head, and neck cancer, etc. ) and intraepithelial neoplasia in both men and women.
- The majority of the infections are symptomless and naturally disappear in 1-2 years, but 5-10% causes continuous infections, which will develop cancer-causing risk factors over several or tens of years.
- HPV can be divided into high-risk genotype, which is highly likely to cause cancer and a low-risk genotype, which rarely causes cancer. Type 16 and 18 are among the high-risk types and account for 70 % of cervical cancer associated with HPV.
  - \* Cervical cancer can develop by genotype infection which is not included in the vaccine even after the HPV vaccination, therefore women should have a cervical cancer test on a regular basis.
- Cervical cancer and cervical intraepithelial neoplasia make up the majority of diseases caused by HPV infection. Korea has new 3,500 cervical cancer patients every year and around 900 deaths.

# Influenza

Inactivated influenza vaccine, IIV

## Influenza Vaccination Subjects and Schedule

### ⓘ Influenza Vaccination Subjects and Schedule

- For all children over 6 months
- Recommended Immunization Schedule:

Age	Vaccination Records (more than 2 doses)	
	Yes	No
6 mo. from birth-9 yrs <sup>1)</sup>	1 <sup>st</sup> dose	2 <sup>nd</sup> doses (4week interval)
9 yrs-	1 dose	

1) Two doses might be necessary according to the period of the epidemic, check with the public health center or medical institution for the vaccination schedule every season.

Children from 6 months to 13 years of age, pregnant women, and the elderly (over 65 years of age) can have an influenza vaccination at no cost at public health centers or designated medical institutions during the program period.

※ The designated medical institutions can be found on the website (<https://nip.kdca.go.kr>) or public health center guidebooks.

### ⓘ Precautions are needed for vaccination in the following cases: (Consult the doctor)

- Those who experienced Guillain-Barre syndrome within 6 weeks after an Influenza vaccination.
- Moderate or severe acute stage disease patients (avoid vaccination until the symptoms improve)

### ⓘ Vaccinations are prohibited in the following cases:

- Infants under 6 months old
- Children who experienced severe (fatal) allergic reactions after a previous Influenza vaccination
- Children who have a serious allergic reaction to Influenza vaccine ingredients
  - ※ In case of experiencing the symptoms such as reaction to eggs, dizziness, and continued vomiting and get treatment such as epinephrine, The vaccination is allowed at a medical clinic which can diagnose and treat severe allergic reactions. (However, the vaccination is prohibited when showing severe anaphylactic reaction to eggs.)

## Safety and Adverse Reactions of the Influenza Vaccination

### ⓘ Safety of Influenza Vaccination

- The most frequently occurring adverse reactions to inactivated influenza vaccines include a localized reaction. 15-20 % of vaccinations cause a rash or pain in the injection area, which will disappear 1-2 days most of the time.

### ⓘ Possible adverse reactions after influenza vaccination

- **Local adverse reaction:** rash and pain in the injection area
- **Systemic adverse reaction:** fever, muscle ache, allergic reaction to egg protein, etc.

## Infectious Disease Information of Influenza

### ⓘ What is influenza?

- Known as the 'flu', the Influenza virus can be transmitted through the respiratory system (nose, throat, bronchial tubes, lung, etc.).
- The Influenza virus can be discharged in the air through the virus carrier's cough, sneeze, or talking and can be contagious to others.
- Influenza could cause severe symptoms that can cause other viruses and have fatal complications (pneumonia, etc.)

### ⓘ Spread of Influenza

- When acute influenza patients cough or sneezes, droplets from the respiratory system spread the virus.
- Air infection is plausible within a populated group in a closed space.

### ⓘ Symptoms of Influenza Virus Infection

- Along with general symptoms such as a sudden fever, muscle aches, headache, etc. respiratory symptoms, such as a sore throat and cough appear and are accompanied by a runny or stuffy nose, chest pain, eye pain, a stomachache, and vomiting.
- Systemic symptoms last for 2-3 days in general and rarely 5 days. The recovery is fast, but symptoms such as lethargy, fatigue, and coughing could last for weeks.

## How to Check Child's Vaccination History

Parents can check the child's vaccination history according to the following methods when history is registered in the KDCA system.

### 1) Check from the internet website

- ① Parents sign on the website (<https://nip.kdca.go.kr>) and register the parent's resident registration number at the menu 'change member information -> add information'.
- ② Register the child's information at the 'register the child's information (name, resident registration number, gender, and relations) and click on the menu 'search for vaccination history -> view vaccination history' to check the child's vaccination history

### 2) Refer to the 'Mobile App Vaccination Guide'.

- ① Download and install 'vaccination guide' application from the app store.
  - Parents can download from the Android Market or the Apple Store according to their cellphone type. Search for the 'vaccination guide' application to download the app.
- ② Sign in and click on the hamburger menu (☰) on the left top then click on the 'manage member information -> add information' and register parents' resident registration number.
- ③ Register the child's information (name, resident registration number, gender, and relations) at the 'baby information' menu and check the vaccination history at the menu 'child's vaccination -> child note'.
  - ※ If the vaccination information is omitted, request the medical institution which administered the vaccination to enter the vaccination history.

### 3) Issue the certificate of vaccination from the website at no cost.

- ① First, sign into the website and register the child's information.
- ② Choose between Korean/English documents at the e-service menu and click on the 'certificate issuance' button.
- ③ Choose the reason for the issuance after checking the vaccination certificate and click on the issue button to issue the certificate of vaccination.

### 4) Check with the medical institution or public health center which administered the vaccination.

Pay a visit to the medical institution or public health center which administered the vaccination and check the child's vaccination history after having the parent's identification confirmed.

## Vaccination Q&A

### Q.1 Can a written vaccination record be registered in the system?

A.1 Written vaccination records are intended to help parents manage their children's vaccination records and lack important information, such as the vaccine number, the manufacturer name, etc. Therefore, it cannot be registered in the system due to uncertainty with the information. If a vaccination is not registered in the system, a request to the medical clinic which administered the vaccination must be made.

### Q.2 Is re-vaccination necessary if the vaccination records cannot be checked after vaccination was completed.

A.2 If the vaccination records cannot be located, it is recommended to get a vaccination again. In general, re-vaccination does not create abnormality in the immune system nor does it increase adverse reactions. However, as the times of vaccination can be changed in the case of re-vaccination, consult the doctor before vaccination.

### Q.3 What is the vaccination schedule after returning from abroad?

A.3 The vaccination schedule could vary depending on the country's disease mechanical characteristics, therefore follow the schedule recommended by the country you will continue to live in. Request the system registration at the nearest public health center of the English vaccination certificate and have the documents signed or sealed and issued by the medical institution which administered the vaccinations.

### Q.4 If the vaccination schedule is missed, does it need to be restarted from the beginning?

A.4 The delayed schedule does not need to be started from the beginning. But it is recommended to get a vaccination as scheduled due to the risk of getting diseases from the delay.

### Q.5 The injection area is red and swollen. What can I do about it?

A.5 The injection area could have pain, harden, swell, and turn red, but it disappears most of the time. However, if it remains aggravated or continues for days, consult the doctor.

## Vaccination Q&A

**Q.6** Is it true that too many vaccines can cause negative side effects on the immune system?

**A.6** The vaccination uses a small part of our bodily immunity system to create antibodies, therefore it strengthens immunity not burden the system.

**Q.7** Is it true that vaccines cause diseases such as autism?

**A.7** According to scientific research, it has not been proved that vaccines cause autism, other behavioral disorders, or SIDS.

**Q.8** Is it true that Thiomersal and Aluminum contained in the vaccine are dangerous?

**A.8** The additives contained in the vaccines magnify the effectiveness of the vaccines, but only a small amount of it is used to prevent contamination, and no proof has been found that any of those additives are dangerous. In addition, the vaccines that are currently used do not contain Thiomersal.

**Q.9** Is it true that vaccines do not go through sufficient clinical trials in their development stage?

**A.9** Much research needs to be conducted on the safety of the vaccines in its developmental stage. It has to pass the multiple clinical trials before coming to the market and research continues regarding side-effects and efficacy, etc. even after the vaccine gains approval for use.

**Q.10** Is it true that the risk of vaccinations is greater than the risk of infectious diseases?

**A.10** The risk of getting severe adverse side-effects from vaccination is far smaller than the risk of death from the diseases or having complications by not having a vaccination. Infectious diseases can come back when the local community has lower levels of immunity.

**Q.11** Is it safe to administer multiple vaccines at the same time on the same day?

**A.11** Most vaccines can be administered at the same time on the same day and it would save your hospital visits and help your child be less stressed-out.

## Vaccination Q&A

**Q.12** Is vaccination not allowed if the child has atopic dermatitis or an allergy?

**A.12** It is still safe to vaccinate the child if the child has severe atopic dermatitis, and it is not prohibited when the child has an allergy to other than the ingredients of the vaccine to be administered.

**Q.13** Is vaccination not allowed if the child has a cough, runny nose, or mild fever?

**A.13** It is safe to vaccinate the child as scheduled if the child has slight flu symptoms, such as cough and runny nose, middle ear infection or stomachache, or a mild fever of lower than 38°C. However, if the symptoms are more severe, consult the doctor.

**Q.14** If the child has adverse reactions to vaccination, such as mild fever or pain, is the next vaccination allowed?

**A.14** It is not prohibited to have a vaccination when a child has slight adverse reactions, such as a mild fever or pain in the injection area. However, it is prohibited to use the vaccine when the child develops a severe allergic reaction to the certain vaccine ingredients (anaphylactic reaction). Consult the doctor.

**Q.15** If the actual date of birth does not match the resident registration number due to unavoidable reasons, does this cause any problem for vaccinations?

**A.15** The minimum age and the minimum interval between vaccinations are required by vaccines in order to acquire sufficient immunity against infectious diseases. The vaccination schedule is decided based on the actual date of birth. If it does not match the resident registration number, visit the nearest public health center with the document that proves the actual date of birth of a child to request for the correction.





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## Standard vaccination schedule(2022)

Diseases protected against			Vaccines types and method		No.	Birth~1month	1month	2month	4month	6month	12month	15month	18month	19~23 month	24~35 month	4years old	6years old	11years old	12years old	
National Vaccination	Tuberculosis	BCG (intradermal)	1	BCG 1 time																
	Hepatitis B	HepB	3	HepB 1 Primary	HepB 2 Secondary					HepB 3rd										
	Diphtheria Tetanus Pertussis	DTaP	5			DTaP 1 Primary	DTaP 2 Secondary			DTaP 3rd		DTaP 4th				DTaP 5th				
		Tdap/Td	1																Tdap/Td 6th	
	Polio	IPV	4			IPV 1 Primary	IPV 2 Secondary			IPV 3rd						IPV 4th				
	Haemophilus influenzae type b	Hib	4			Hib 1 Primary	Hib 2 Secondary			Hib 3rd	Hib 4th									
	Pneumococcus	PCV	4			PCV 1 Primary	PCV 2 Secondary			PCV 3rd	PCV 4th									
		PPSV	-													Vaccination only for high risk group				
	Measles Mumps Rubella	MMR	2								MMR 1 Primary						MMR 2 Secondary			
	Varicella	VAR	1								VAR 1 time									
	Hepatitis A	HepA	2								HepA 1~2 Primary~Secondary									
	Japanese encephalitis	IJEV	5								IJEV 1~2 Primary~Secondary				IJEV 3rd		IJEV 4th		IJEV 5th	
		LJEV	2								LJEV 1 Primary			LJEV 2 Secondary						
	Human Papilloma Virus Infectious Disease	HPV	2																	HPV 1~2 Primary~Secondary
	Influenza	IIV	-								IIV Annual vaccination									
Other immunization	Rotavirus	RV1	2					RV 1 Primary	RV 2 Secondary											
		RV5	3					RV 1 Primary	RV 2 Secondary	RV 3rd										

- National vaccination: The nationally recommended mandatory vaccination (the National Law on the Prevention and Management of Infectious Diseases establishes the standards and methods of infectious diseases and vaccinations to be vaccinated, and raises and supports financial resources on vaccination)
- Other vaccinations: Paid vaccinations that can be given at private medical institutions with infectious diseases other than those targeted for vaccination and designated infectious diseases.

- DTaP, IPV, Hib vaccine can be inoculated with DTaP-IPV or DTaP-IPV/Hib vaccine according to vaccination schedule