Vaccination and Children's Health

2020 Version

Written and edited by: The Review Committee for Vaccination Guidelines

Publisher: Public Foundation of the Vaccination Research Center

Introduction

Children are often ill and sometimes become extremely sick; vaccination can protect them from several serious illnesses.

This brochure has been created to provide you with information about vaccination and to allow you to have your child vaccinated safely.

We hope that this brochure will enhance the health and growth of your child.

Table of Contents

The 2020 edition is based on revisions as of February 29, 2020.

You can receive the latest information from your municipality (including special wards; the same applies below). This information is also available from the websites of the Ministry of Health, Labour and Welfare (https://www.mhlw.go.jp/english/) and the Infectious Disease Surveillance Center, National Institute of Infectious Diseases (https://www.niid.go.jp/niid/en/).

If amendments are made to national laws or systems, notifications and other information will be published on the website of the Public Foundation of the Vaccination Research Center (http://www.yoboseshu-rc.com/).

1. Get your child vaccinated!

The immunity to diseases which mothers give their infants almost completely disappears 3 months after birth for pertussis and 12 months after birth for measles. Consequently, after these periods, infants must ward off disease by producing their own immunity. Vaccination supports this defense.

Children go outside more often and interact with more people as they grow; consequently, they are at higher risk of infection. We recommend that you learn about vaccination and have your child vaccinated for his/her health.

● Infections

Infections are caused by pathogens, including viruses and bacteria, which invade the body and multiply. Symptoms may include fever, cough, and headache, depending on the type of pathogen.

2. What is vaccination?

Vaccination is the administration of attenuated forms of viruses and bacteria or of their toxins which cause infectious diseases such as measles and pertussis. Giving these attenuated forms produces immunity against these diseases. A “vaccine” is a preparation used for vaccination.

Vaccines cannot be prepared for all infectious diseases. Due to their nature, vaccines cannot be produced for some viruses and bacteria.

3. Vaccination validity

Vaccination is performed to prevent a target disease or reduce its severity in the event it is contracted; however, immunity is not established in some children because of their characteristics and physical condition. If there is a desire to confirm whether immunity has been established, there are blood tests which measure the levels of antibodies in the blood.

In addition, with some vaccines, immunity gradually diminishes even after it has been established, and such vaccines require boosters at specific intervals to maintain long term immunity. (See 5. (3) Vaccine types and characteristics on page 4)

4. Children who are subject to vaccination and the vaccination schedule

Vaccination includes routine vaccination and voluntary vaccination (see page 40). With regard to routine vaccination, the Preventive Vaccination Law defines the target diseases, subjects, and vaccination schedules.

Vaccination is carried out during periods appropriate to each disease.

See page 6 for children who are subject to routine vaccination and recommended periods (the standard vaccination periods).

With regard to the vaccination against Japanese encephalitis, persons aged less than 20 (birth date: April 2, 1995 to April 1, 2007) who did not undergo phase 1 and 2 vaccinations due to the withholding of a positive recommendation to do so in 2005 are now subject to routine vaccinations for this disease. (See “7 ◆ Japanese encephalitis (4) Special consideration for vaccination” on Page 32)

Since September 2012, the oral polio vaccine used for routine vaccination has been replaced with an inactivated poliovirus vaccine (IPV). The IPV IMOVAX POLIO® subcutaneous injection (produced by Sanofi K.K.) has been used since September and the DPT-IPV quadruple vaccine Quattrovac® (produced by KM Biologics) and Tetrabik® (produced by the Research Foundation for Microbial Diseases of Osaka University) since November 2012.

In December 2015, the DPT-IPV quadruple vaccine, Squarekids® subcutaneous injection syringe (produced by Daiichi Sankyo Co., Ltd.), was introduced to the market. (See “7 ◆ Diphtheria, pertussis, tetanus, and polio (acute poliomyelitis)” on page 20)

On October 1, 2014, chickenpox was made a routine vaccination and hepatitis B was made a routine vaccination on October 1, 2016.

Rotavirus is scheduled to become a routine vaccination from October 1, 2020.

Since January 30, 2013, special measures have been in place for children who were unable to receive routine vaccinations due to long-term severe illness etc. For more information, contact your municipal office in charge of vaccination.

5. Let's make a vaccination plan for your child

(1) Notice of vaccination

Routine vaccination is carried out by the municipal office in accordance with the Preventive Vaccination Law. A notice of vaccination is usually sent to parents/guardians individually. Since the notice is sent on the basis of the Basic Resident Register and the Residence Card, make sure to report when a baby is born or when you move.

(2) Fill in a rough target date for vaccination

The routine vaccination is, in principle, given individually. Determine a specific schedule and order for vaccinations after considering municipal programs, the physical condition your child, and the state of disease provenance, and consulting with your family doctor.

Note that some municipalities may give the BCG vaccine as a mass vaccination (provided at a designated time and place such as healthcare center).

(3) Vaccine types and characteristics

Vaccines are classified into two categories: live and inactivated vaccines.

Live vaccines are made of attenuated live bacteria and viruses (live bacteria and viruses whose pathogenicity has been weakened). Resistance (immunity) to the disease is established similarly to actually being infected by it. The measles-rubella (MR), measles, rubella, BCG, mumps, varicella (chickenpox), rotavirus, and yellow fever vaccines belong to this type.

After vaccination, attenuated bacteria and viruses (bacteria and viruses whose pathogenicity has been weakened) start multiplying; consequently, vaccines can cause mild symptoms, including fever and rash, depending on the vaccine. It takes about one month to establish sufficient resistance (immunity).

Inactivated vaccines are made by killing the virus or bacteria, extracting the components required to develop resistance (immunity) and eliminating their virulence (pathogenicity). Inactivated vaccines include the hepatitis B vaccine, diphtheria-pertussis-tetanus inactivated polio vaccine (DPT-IPV), diphtheria-pertussis-tetanus (DPT) vaccine, diphtheria-tetanus (DT) vaccine, inactivated polio vaccine (IPV), Japanese encephalitis vaccine, tetanus (T) vaccine, seasonal influenza vaccine, Haemophilus influenzae type b

(Hib) vaccine, pediatric pneumococcal conjugate vaccine, human papillomavirus (HPV) vaccine, meningococcal vaccine, hepatitis A vaccine, and rabies vaccine.

In these vaccines, bacteria and viruses do not multiply, and several shots are required to establish resistance (immunity). Two or three vaccine shots are given at certain intervals to establish a basic resistance (immunity), after which a booster is given several months to one year later to enhance resistance (immunity) to a sufficient level.

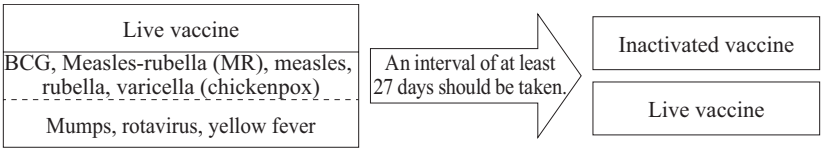
However, the resistance (immunity) diminishes gradually. To keep the resistance (immunity) for a long time, a booster is required at certain intervals, depending on the characteristics of the vaccine.

(4) Intervals at which different vaccines are given

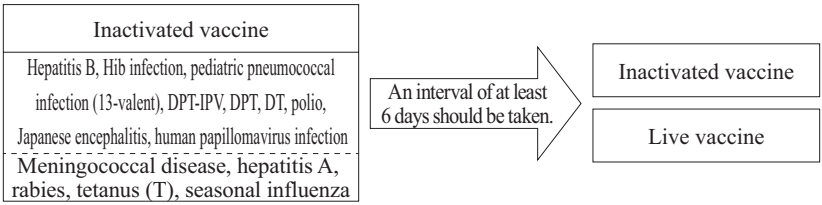
Vaccines are classified as live or inactivated vaccines, and the appropriate intervals at which to give different vaccines must be maintained.

In certain cases, there may be a need to receive more than one kind of vaccine at the same time. Consult with your doctor thoroughly.

If your child is to be vaccinated several times with the same vaccine, please make sure that the specified intervals are adhered to.



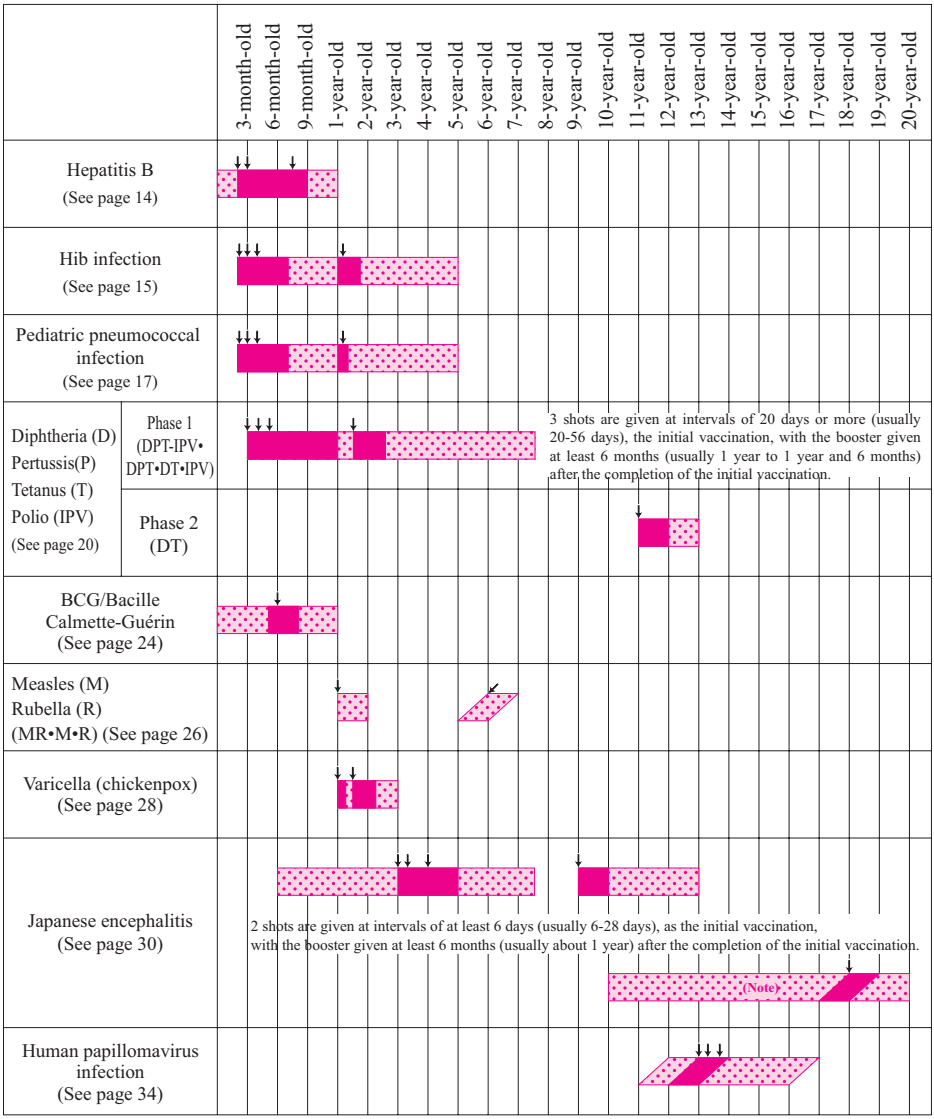
(An interval of at least 27 days should be taken from the day after receiving a live vaccine until the day of receiving a different vaccine.)



(An interval of at least 6 days should be taken from the day after receiving an inactivated vaccine until the day of receiving a different vaccine.)

5. Let's make a vaccination plan for your child

[Note] The starting date for calculating the vaccination interval is the day following the day of vaccination.



Note: Persons born between April 2, 1995 and April 1, 2007 who were unable to receive the phase 1 and 2 vaccine due to the suspension of active recommendation in 2005 are able to receive the vaccine as a routine vaccination if under the age of 20.

The  mark indicates the age of children who are subject to routine vaccinations in accordance with the Preventive Vaccination Law. However, considering the period during which children are likely to become infected, receiving vaccinations during the terms marked with ▬ is recommended (▬ indicates the standard vaccination periods). Therefore, please ensure to the extent possible that your child receives his/her vaccinations during these terms.

The arrow (↓) indicates examples of preferable times for vaccinations.

* About the hepatitis B vaccine

On October 1, 2016, the hepatitis B vaccine was made a routine vaccination.

a) Eligibility: Children born on or after April 1, 2016 up to their first birthday.

b) Exclusions: Children who received the hepatitis B vaccine after birth as part of the mother-to-infant transmission prevention program.

c) Method of inoculation: A recombinant adsorbed hepatitis B vaccine is used. The standard schedule is two injections given between 2 and 9 months of age with an interval of at least 27 days, and one injection given after an interval of at least 139 days after the first injection.

d) Handling of injections given before October 1, 2016: Hepatitis B vaccinations given prior to October 1, 2016 (i.e. before the vaccination was made routine) equivalent to the hepatitis B vaccine of the routine immunization schedule are deemed to be routine schedule hepatitis B vaccinations. A person who was given such vaccination is to be deemed to have received the hepatitis B routine vaccination and should receive subsequent inoculations as indicated below.

* Vaccination intervals

The length of vaccination intervals are established in laws and ordinances. For example, "an interval of one week" means "on the same day of the next week or later."

* If your child happened to:

• Have pertussis before DPT-IPV or DPT vaccination, see pages 21-24.

• Have measles or rubella before MR vaccination, see pages 27-28.

5. Let's make a vaccination plan for your child

Example of Vaccination Schedule

Your child's date of birth: (day) / (month) / (year)

Vaccination	Target date	Vaccination Date
Hepatitis B – First injection	From about (d/m/y) to about (d/m/y)	(d/m/y)
Hepatitis B – Second injection	From about (d/m/y) to about (d/m/y)	(d/m/y)
Hepatitis B – Third injection	From about (d/m/y) to about (d/m/y)	(d/m/y)
Hib infection – First – First administration	From about (d/m/y) to about (d/m/y)	(d/m/y)
Hib infection – First – Second administration	From about (d/m/y) to about (d/m/y)	(d/m/y)
Hib infection – First – Third administration	From about (d/m/y) to about (d/m/y)	(d/m/y)
Hib infection – Booster – First administration	From about (d/m/y) to about (d/m/y) Note: The number of vaccinations depends on age in months at the time the initial vaccination was initiated.	(d/m/y)
Pediatric pneumococcal infection – First – First administration	From about (d/m/y) to about (d/m/y)	(d/m/y)
Pediatric pneumococcal infection – First – Second administration	From about (d/m/y) to about (d/m/y)	(d/m/y)
Pediatric pneumococcal infection – First – Third administration	From about (d/m/y) to about (d/m/y)	(d/m/y)
Pediatric pneumococcal infection – Booster – First administration	From about (d/m/y) to about (d/m/y) Note: The number of vaccinations depends on age in months at the time the initial vaccination was initiated.	(d/m/y)
DPT-IPV DPT /DT phase 1 – First administration	From about (d/m/y) to about (d/m/y)	(d/m/y)
DPT-IPV DPT /DT phase 1 – Second administration	From about (d/m/y) to about (d/m/y)	(d/m/y)
DPT-IPV DPT /DT phase 1 – Third administration	From about (d/m/y) to about (d/m/y) Note: If DT is used for the initial vaccination in phase 1, the vaccination is conducted with 2 shots.	(d/m/y)
DPT-IPV DPT DT Phase 1 booster	From about (d/m/y) to about (d/m/y)	(d/m/y)
DT phase 2	From about (d/m/y) to about (d/m/y)	(d/m/y)

Vaccination		Target date	Vaccination Date
Polio (IPV)	First administration	From about (d/m/y) to about (d/m/y)	(d/m/y)
	Second administration	From about (d/m/y) to about (d/m/y)	(d/m/y)
	Third administration	From about (d/m/y) to about (d/m/y)	(d/m/y)
	Fourth administration	From about (d/m/y) to about (d/m/y)	(d/m/y)
BCG		From about (d/m/y) to about (d/m/y)	(d/m/y)
MR/M/R	Phase 1	From about (d/m/y) to about (d/m/y)	(d/m/y)
	Phase 2	From about (d/m/y) to about (d/m/y)	(d/m/y)
Varicella (chickenpox)	First administration	From about (d/m/y) to about (d/m/y)	(d/m/y)
	Second administration	From about (d/m/y) to about (d/m/y)	(d/m/y)
Japanese encephalitis	Phase 1 First administration	From about (d/m/y) to about (d/m/y)	(d/m/y)
	Phase 1 Second administration	From about (d/m/y) to about (d/m/y)	(d/m/y)
	Phase 1 booster	From about (d/m/y) to about (d/m/y)	(d/m/y)
	Phase 2	From about (d/m/y) to about (d/m/y)	(d/m/y)
Human papillomavirus infection	First administration	From about (d/m/y) to about (d/m/y)	(d/m/y)
	Second administration	From about (d/m/y) to about (d/m/y)	(d/m/y)
	Third administration	From about (d/m/y) to about (d/m/y)	(d/m/y)

* Fill in a rough target date for vaccinations in accordance with the table on page 6.

6. Before having your child vaccinated

Please confirm the following before vaccination

1 Is your child in good health?
2 Do you understand the necessity for vaccination and the benefits and possible risks (adverse reactions) of the vaccine that will be given to your child today?
If you have any questions, please write them down.
3 Did you bring your maternal and child health handbook with you?
4 Did you complete a vaccination screening questionnaire?

(1) General precautions

Vaccination should be performed when your child is in good health. Always take note of the physical condition and characteristics of your child. If you have any concerns, do not hesitate to consult your family doctor, healthcare center, or the municipal office in charge, in advance.

To have your child vaccinated safely, we recommend that you make the decision whether to receive the vaccination on the appointed day after taking the following into consideration:

a) Observe your child carefully from the morning on the day of vaccination, and confirm that he/she is well.
Even if vaccination is scheduled, if your child appears sick, consult your family doctor and decide whether your child should be vaccinated or not.

b) Thoroughly read the information about vaccination provided by the municipal office so that you fully understand the necessity and possible adverse effects of the vaccines.
If you have any questions, ask the doctor who is to vaccinate your child before vaccination.

c) Make sure to bring your maternal and child health handbook.

d) The screening questionnaire contains important information for the doctor in charge of vaccination. Please fill in the form completely and accurately.

e) We recommend that the child being vaccinated be accompanied by a parent/guardian who is familiar with the child's usual physical condition.

A child can only be vaccinated if a parent/guardian fully understands the benefits of and possible adverse reactions to vaccination and agrees to have the child vaccinated.

(2) The following persons cannot receive vaccination:

a) A child with an obvious fever (37.5°C or higher)

b) A child with a severe acute illness
As a general rule, children with acute, severe illnesses should not be vaccinated on that day, as the course of such illness can be unpredictable.

c) A child who has had anaphylaxis to any component of the vaccine preparation to be given on that day
"Anaphylaxis" is an acute, severe systemic allergic reaction, usually within 30 minutes after vaccination, including excessive sweating, a swollen face, systemic severe urticaria, nausea, vomiting, hoarseness, and respiratory distress, resulting in shock.

d) Women eligible for the measles, rubella, varicella (chickenpox), and mumps vaccination and are known to be pregnant
This is a regulation not directly concerning children but important for persons who will receive voluntary vaccination.

e) As concerns the BCG vaccination, a child with a predisposition to keloids

f) Persons who are eligible for the hepatitis B vaccination and who have received the hepatitis B vaccine after birth as part of the mother-to-infant transmission prevention program

g) Other conditions that a doctor considers inappropriate
Even if your child does not meet the above criteria a) to f), he/she cannot be vaccinated if a doctor decides that doing so would be inappropriate.

(3) Children who require careful consideration in receiving a vaccination

Parents/guardians to whom the following may apply should have their child seen by their family doctor in advance to determine whether the child can be vaccinated. If vaccination is to take place, it should be performed by the family doctor, or at another medical institution provided a note or letter, etc. can be obtained from the family doctor.

a) A child who is being treated for a heart, kidney, liver, or blood disease, or a developmental disorder.

b) A child who has had a fever within 2 days of a previous vaccination or an allergic reaction, including rash and urticaria.

c) A child who has had a seizure in the past.
The decision of whether a child should be vaccinated depends on the age at which the seizure occurred, the presence or absence of fever, subsequent seizures, and the type of vaccine. Please consult the child's doctor before vaccination.

d) A child who has been diagnosed with immunodeficiency in the past or has a family member or relative with immunodeficiency (for example, a person who repeatedly had perianal abscesses as a baby).

e) A child who is allergic to the vaccine's components, such as eggs, antibacterial agents, and the stabilizers used in any step of vaccine production.

f) Children with latex sensitivity.
Latex sensitivity is an immediate hypersensitivity to natural rubber products. The condition is suspected when an allergic reaction is observed upon the use of latex gloves. Also seek consultation if your child is allergic to fruits etc. with cross-reactivity to latex (banana, chestnut, kiwifruit, avocado, melons, etc.) (source: Form No. 8, Hepatitis B Vaccine Screening Questionnaire).

g) As concerns the BCG vaccination, a child who is suspected of being infected with tuberculosis already, such as a child who has been in prolonged contact with a family member with tuberculosis.

(4) General precautions after receiving vaccination

a) For 30 minutes after the vaccination, observe your child at the medical institution (facility) or ensure that a doctor can be contacted immediately. Acute adverse events often develop during that time.

b) Watch for possible adverse reactions for up to 4 weeks (for live vaccines) or 1 week (for inactivated vaccines) after vaccination.

c) Keep the vaccination site clean. Bathing is allowed, but avoid rubbing the vaccination site.

d) Avoid strenuous physical activity on the day of vaccination.

e) If a child experiences an abnormal reaction at the vaccination site or has a change in physical condition after vaccination, consult a doctor immediately.

7. Diseases preventable by vaccination and vaccines

Each child has a unique physiological makeup. In rare cases, varying degrees of adverse reactions may occur. It is important for you to decide whether to have your child vaccinated after detailed consultation with your doctor, who understands the physical status of your child.

◆ Hepatitis B

Since October 2016, the hepatitis B vaccine has been given as a routine vaccination to all children born on or after April 1, 2016. The cost of vaccinations to newborns of hepatitis B-positive (HBs antigen positive) mothers will continue to be covered by health insurance, and in the case of accidental exposure to hepatitis B positive blood etc., the cost of the inoculation will continue to be covered by workers' compensation or health insurance.

(1) Cause and course

When a person is infected by the hepatitis B (HB) virus, he or she may develop acute hepatitis and recover, or progress to chronic hepatitis. In some cases, fulminant hepatitis may occur with severe symptoms which may result in death. In other cases, the virus may hide in the liver without causing any obvious symptoms, and develop into chronic hepatitis, cirrhosis, or hepatic cancer after a period of years. It is known that the younger the patient, the less clear the symptoms of acute hepatitis and the more likely the virus will hide, resulting in persistent infection. Infections occur through mother-infant transmission from an HB virus positive (HBs antigen positive) mother to her newborn, through direct contact with HB positive blood or bodily fluids, or through sexual contact with an individual who is HB positive.

(2) Hepatitis B vaccine (inactivated vaccine)

Vaccination with the hepatitis B (HB) vaccine, especially in children, is aimed primarily at preventing persistent infection by the virus and the future potential occurrence of chronic hepatitis, cirrhosis, or hepatic cancer, rather than at preventing hepatitis in the short term.

Previously, newborn infants of HB virus positive mothers were given the hepatitis B vaccine plus hepatitis B immunoglobulin as soon as possible after birth to prevent mother-to-child transmission. Now, however, in order to have more people receive the hepatitis B vaccine and reduce the number of future sufferers of chronic hepatitis, cirrhosis, and hepatic cancer, routine vaccination began in October 2016 for all children born on or after

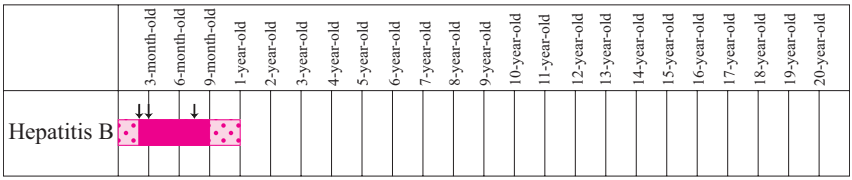
April 1, 2016, in addition to the mother-to-child transmission prevention program.

Note that the mother-to-child transmission prevention program will continue to be covered by health insurance.

Children eligible for routine HB vaccination are those born on or after April 1, 2016 and under 1 year of age. The standard schedule is between the time the child turns 2 months and up to 9 months, in which two subcutaneous injections are given with an interval of at least 27 days between the first and second injections, and another subcutaneous injection given after an interval of at least 139 days after the first injection.

Adverse reactions to the HB vaccine have been reported in about 10% of people who received the vaccine to date, and include lethargy, headache, and swelling/redness/pain at the vaccination site, etc. However, the vaccine is being given to newborns and infants without problems. The incidence of severe cases (cases deemed to be serious by the reporter) among suspected cases of adverse reactions (adverse events) reported by medical institutions between April 1, 2013 and June 30, 2019 was 0.7 per 100,000 vaccinations (source: September 2019 documents from the 43rd Working Group Meeting on Adverse Events, the Subcommittee on Vaccination and Vaccines of the Health Sciences Council).

(3) Vaccination schedule



◆ Hib infection

(1) Cause and course

Haemophilus influenzae, especially Haemophilus influenzae type b, is a problematic pathogen for infants and small children, causing not only superficial infections such as otitis media, sinusitis, and bronchitis, but deep (systemic) infections (also called invasive infections) such as meningitis, sepsis, and pneumonia. Prior to 2010, the incidence of meningitis caused by Hib was 7.1-8.3 out of a population of 100,000 aged less than 5 years. It was estimated that about 400 become infected with meningitis per year and about 11% of those experience poor outcomes*. Children aged 4 months or more and less than 1 year accounted for a half of total patients. (*Cited from material provided by the Vaccination Working Group, Section of Infectious Diseases, Health Science Council of MHLW.) Now that the Hib vaccine is widely used, invasive Hib disease is nearly unseen.

(2) Freeze-dried Haemophilus b conjugate vaccine (Hib vaccine) (inactivated vaccine)

Haemophilus influenzae is classified into 7 categories, with type b being the main cause of serious disease; consequently, type b is used for vaccination. This vaccine is used extensively throughout the world, and was authorized for use in Japan in December 2008 and made a routine vaccination in April 2013.

This vaccine may be given simultaneously with other vaccines when the physician determines it to be necessary and the child's guardian gives consent. Each vaccine can also be given separately.

In Europe and the United States, invasive Hib infections decreased dramatically after the vaccine was introduced. Reduction has been similarly dramatic in Japan after introduction of routine vaccination, and Hib infections are now nearly unseen. The World Health Organization (WHO) highly recommended routine Hib vaccinations for infants and children in 1998; consequently, Hib vaccination has been introduced in more than 110 nations and its efficacy has been evaluated highly.

Adverse reactions are mainly local reactions, including redness (44.2%), swelling (puffiness) (18.7%), induration (stiffness) (17.8%), and pain (5.6%); as well as systemic reactions including fever (2.5%), dysphoria (14.7%), and loss of appetite (8.7%) (see package insert [11th ver.] revised April 2017).

The incidence of severe cases (cases deemed to be serious by the reporter) among suspected cases of adverse reactions (adverse events) reported by medical institutions between its release and June 30, 2019 was 1.5 per 100,000 vaccinations (source: September 2019 documents from the 43rd Working Group Meeting on Adverse Events, the Subcommittee on Vaccination and Vaccines of the Health Sciences Council).

Vaccination against Hib infection is conducted per the following procedures by age in months at the time of initiating the initial vaccination. The standard vaccination procedure is as described in (a) below:

a) A child aged 2 to 7 months (not exceeding the first day of 7 months) at the time of initiating the initial vaccination

The initial vaccination is conducted using a Hib vaccine provided three times at intervals of 27 days or more (20 days if required by a physician), with the standard interval being 27 (20 if required by a physician) to 56 days. The booster is conducted once at an interval of 7 months or more (usually 7 to 13 months) after the initial vaccination. It should be noted that the second and third injections of the initial vaccination are to be given by the time the child is 12 months of age, and are not to be given if the child exceeds 12 months. One booster may be given after an interval of at least 27 days (20 days if required by a physician) after the last vaccination of phase 1.

b) A child aged 7 months (the second day of 7 months) to 12 months (not exceeding the first day of 13 months) at the initiation of the initial vaccination

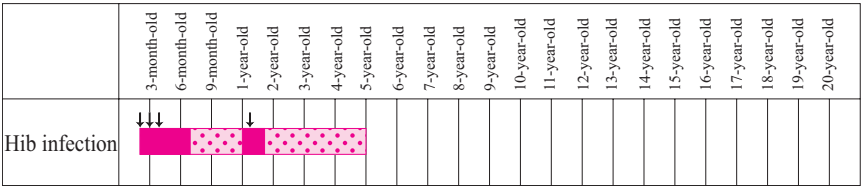
The initial vaccination is conducted using a Hib vaccine provided twice at intervals of 27 days or more (20 days if required by a physician), with the standard interval being 27 (20 if required by a physician) to 56 days. The booster is conducted once at an interval of 7 months or more (usually 7 to 13 months) after the initial vaccination. It should be noted that the second injection of the initial vaccination is to be given by the time the child is 12 months of age, and is not to be given if the child exceeds 12 months. One booster may be given after an interval of at least 27 days (20 days if required by a physician) after the last vaccination of phase 1.

c) A child aged 12 months (the second day of 12 months) to 60 months (not exceeding the first day of 60 months) at the initiation of the initial vaccination.

The vaccination is conducted using a Hib vaccine provided once.

A child who could not be vaccinated due to disease requiring long-term care is also vaccinated in this manner.

(3) Vaccination schedule



◆ Pneumococcal infection in children

(1) Cause and course

Streptococcus pneumoniae is one of two major causes of bacterial pediatric infections. This is a bacterium carried deep in the noses of many children and occasionally causes bacterial meningitis, bacteremia, pneumonia, sinusitis, and otitis media.

Prior to the introduction of the vaccine, the prevalence of purulent meningitis caused by Streptococcus pneumoniae was 2.6-2.9 out of a population of 100,000 aged less than 5 years. It was estimated that about 150 experience meningitis per year*. Case fatality rate and frequency of secondary complications (e.g. hydrocephalus, deafness, mental disabilities) are higher than that of Hib-induced meningitis, with about 21% experiencing a poor prognosis. (*Cited from material provided by the Vaccination Working Group, Section of Infectious Diseases, Health Science Council of MHLW.) Now that the pneumococcal conjugate vaccine is in wide use, invasive infections such as pneumococcal meningitis have decreased dramatically.

(2) Adsorbed 13-valent pneumococcal conjugate vaccine (13-valent pneumococcal conjugate vaccine) (inactivated vaccine)

The pediatric pneumococcal conjugate vaccine (13-valent pneumococcal conjugate vaccine) was developed to prevent bacterial meningitis in children, including 13 serotypes causing serious conditions in children.

This vaccine was first used in the United States as a 7-valent vaccine in 2000, and switched to a 13-valent vaccine in 2010, which is currently used as the standard vaccine in over 100 countries. It has been reported in many countries that inoculation with this vaccine reduces bacterial meningitis and bacteremia. In Japan, the vaccine was authorized for use in November 2013, and the incidence of invasive pneumococcal disease has decreased similarly.

This vaccine may be given simultaneously with other vaccines when the physician determines it to be necessary and the child's guardian gives consent. Each vaccine can also be given separately.

Adverse reactions include local reactions such as erythema (67.8-74.4%) and swelling (47.2-57.1%), and systemic reactions including fever of over 37.5°C (32.9-50.7%) (see package insert [third ver.] revised April 2017).

The incidence of severe cases (cases deemed to be serious by the reporter) among suspected cases of adverse reactions (adverse events) reported by medical institutions between October 28, 2013 and June 30, 2019 was 1.9 per 100,000 vaccinations (source: September 2019 documents from the 43rd Working Group Meeting on Adverse Events, the Subcommittee on Vaccination and Vaccines of the Health Sciences Council).

Vaccination against pediatric pneumococcal infection is provided per the following procedures by age in months at of the time of initiating the initial vaccination. The standard vaccination procedure is as described in (a) below:

a) A child aged 2 to 7 months (not exceeding the first day of 7 months) at the time of initiating the initial vaccination.

The initial vaccination is conducted using a 13-valent pneumococcal conjugate vaccine provided three times at intervals of at least 27 days usually by the time the child is 12 months of age. The booster is conducted once at an interval of at least 60 days after the initial vaccination, given no earlier than one day after the child turns 12 months (the standard vaccination period is between 12-15 months after birth). However, the second and third injections of the initial vaccination are to be given by the time the child is 24 months of age, and are not to be given if the child exceeds 24 months (the booster is allowed after this time). The second injection of the initial vaccination is to be given by the time the child is 12 months of age, and is not to be given if the child exceeds 12 months (the booster is allowed after this time).

b) A child aged 7 (the second day of 7 months) to 12 months (not exceeding the first day of 12 months) at the time of initiating the initial vaccination.

The initial vaccination is conducted using a 13-valent pneumococcal conjugate vaccine provided twice at intervals of at least 27 days usually by the time the child is 12 months of age. The booster is conducted once at an interval of at least 60 days after the initial vaccination 12 months after birth. However, the second injection of the initial vaccination is to be given by the time the child is 24 months of age, and is not to be given if the child exceeds 24 months (the booster is allowed after this time).

c) A child aged 12 (the second day of 12 months) to 24 months (not exceeding the first day of 24 months) at the initiation of the initial vaccination.

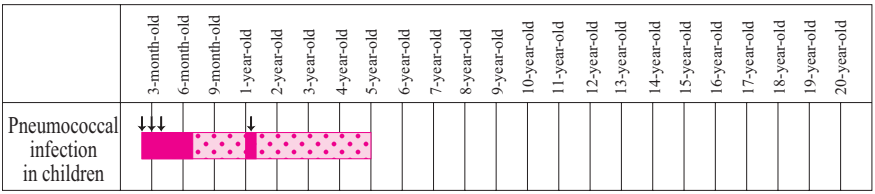
The vaccination is conducted using a 13-valent pneumococcal conjugate vaccine provided twice at intervals of at least 60 days.

d) A child aged 24 (the second day of 24 months) to 60 months (not exceeding the first day of 60 months) at the initiation of the initial vaccination.

The vaccination is conducted using a 13-valent pneumococcal conjugate vaccine provided once.

A child who could not be vaccinated due to disease requiring long-term care can also be vaccinated in this manner.

(3) Vaccination schedule



◆ Diphtheria, pertussis, tetanus, and polio (acute poliomyelitis)

(1) Cause and course

(a) Diphtheria

Diphtheria is caused by Corynebacterium diphtheriae and is spread by droplet infection.

The improved diphtheria-pertussis-tetanus vaccine (DPT) (acellular) was introduced to the market in 1981. Today, the annual incidence of diphtheria in Japan has been zero (0) for many consecutive years, but in the Asian region, epidemic outbreaks have been seen.

The bacterium infects mainly the throat but also the nasal cavity. Even when infection occurs, diphtheria causes symptoms in only about 10% of people, while the rest of those infected become asymptomatic carriers who can transmit the disease to other people. Symptoms include high fever, sore throat, a barking cough, and vomiting; a false membrane may also form in the throat which can cause asphyxia. Patients must be monitored carefully because the bacterium produces a toxin that can cause a serious myocardial disorder or paralysis two to three weeks after the development of symptoms.

(b) Pertussis

Pertussis is caused by Bordetella pertussis and is spread by droplet infection.

Since pertussis vaccination was begun in 1950, the number of patients has decreased, but in recent years, there have been cases of pertussis in children ranging from school age to adolescence as well as in adults characterized by persistent coughing. Such people are potential sources of infection to small children, and require caution since the disease can become serious, especially in newborns and infants.

Prototypical pertussis begins with symptoms mimicking a common cold. The child then begins to cough violently and repeatedly, with a flushed face. After coughing, the patient is forced to inhale rapidly, creating a whooping sound similar to a whistle. Usually, fever does not develop. Infants sometimes present with blue lips (cyanosis), seizures (fits) or suddenly stop breathing because they are unable to breathe due to coughing. Severe complications such as pneumonia or encephalopathy are likely to develop, and these diseases may lead to death in newborns or infants.

● Droplet infection

Droplet infection is the transmission of viruses and bacteria through coughing, sneezing, conversation, etc. Viruses and bacteria enveloped in sprays of saliva and airway secretions are spread through the air to people within one meter.

(c) Tetanus

Clostridium tetani does not spread from person to person. The bacteria are usually found in soil and enter the body through wounds in the skin. The bacteria multiply in the body and produce a toxin, causing tonic muscle spasms. Lockjaw is the first noticeable symptom; subsequently, generalized tonic seizures occur, and delayed treatment sometimes results in patient death. Half of all patients are infected through a small skin wound not noticed by themselves or the people around them. As the bacteria are found in soil, opportunities for infection are constant. If a pregnant mother has immunity, the newborn is protected from tetanus during delivery.

(d) Polio (acute poliomyelitis)

Polio (acute poliomyelitis) is also known as "infantile paralysis." Pandemics occurred repeatedly in Japan until the early 1960s. Owing to vaccination, the last occurrence of a patient paralyzed by a wild strain of the polio virus was in 1980. The WHO declared the eradication of poliomyelitis from the Western Pacific Region including Japan in 2000. In 2017, polio was endemic in only two countries, Pakistan and Afghanistan, and the global eradication of polio had come to seem to no longer be a dream, but the world remains on guard against polio.

The polio virus infects through the mouth and proliferates in the cells of the pharynx and small intestine. The polio virus is said to multiply for 4 to 35 days (mean: 7-14 days) in the cells of the small intestine. Viruses thus multiplied are excreted in feces and taken through the mouth of a person with no resistance (immunity) to the polio virus, resulting in infection from person to person. Most people who are infected with the polio virus are asymptomatic and gain lifelong protection (lifelong immunity). In some people who experience symptoms, the viral infection spreads via the blood to the brain and spinal cord, thereby causing paralysis. Out of 100 children infected with the polio virus, 5-10 experiences symptoms like those of the common cold, accompanied by fever, and followed by headache and vomiting.

About 1 of 1,000-2,000 people infected with the polio virus experiences paralysis of the limbs. Some are permanently paralyzed or suffer from progression of symptoms, sometimes dying of respiratory distress.

(2) Diphtheria-pertussis-tetanus and inactivated polio vaccine (DPT-IPV), Diphtheria-pertussis-tetanus vaccine (DPT), and diphtheria-tetanus vaccine (DT) (inactivated vaccine)

The phase 1 initial vaccination is given three times in the case of DPT-IPV and DPT and twice in the case of DT, allowing an interval of at least 20 days with the standard

interval being 20 to 56 days. The phase 1 booster vaccination is given at least 6 months (usually about 1 year to 1 year and 6 months) after the completion of the initial vaccination. Take care not to miss a vaccination, as multiple injections are required. Phase 2 vaccination (diphtheria-tetanus vaccine) is given once at the age of 11-12 years.

Although a voluntary vaccination, it is also possible to have your child receive the DPT vaccine at this time, strengthening their immunity to pertussis.

To acquire sufficient immunity, your child must be vaccinated according to fixed intervals. However, even in the event the interval between injections becomes longer than that specified, there are several methods which can be taken, so please consult with your family doctor and the municipal office.

The DPT-IPV vaccine can be used even with children who have already contracted one or more of pertussis, diphtheria, poliomyelitis (acute poliomyelitis), or tetanus.

Since November 2012, the combined DPT (diphtheria, pertussis, tetanus) and IPV (inactivated polio) quadruple vaccines Quattrovac® (produced by KM Biologics) and Tetrabik® (produced by the Research Foundation for Microbial Diseases of Osaka University) have been used. In December 2015, the DPT-IPV quadruple vaccine, Squarekids® subcutaneous injection syringe (produced by Daiichi Sankyo Vaccine Co., Ltd.), was introduced to the market.

Adverse reactions to DPT-IPV vaccines are mainly local reactions such as redness, swelling (puffiness), and/or induration (stiffness) at the vaccination site, and are seen in about 18% by the seventh day after injection.

Induration (stiffness) gradually grows smaller, but may remain for several months. High fevers do not usually occur, but fevers of 37.5°C or higher are observed in 0.5 to 1.8% of children on the day of vaccination.

The most common adverse reactions of the DT phase 2 vaccination are reactions at the vaccination site. Reactions such as redness, swelling (puffiness), and induration (stiffness) of the vaccination site occur in about 31% of injectees by the seventh day after injection. Similarly to local reactions after the DPT-IPV vaccine, the redness and swelling resolve spontaneously within several days, but induration, while growing gradually smaller, may persist for several months. The incidence of a fever of 37.5°C or higher is under 0.5% (source: The 2013 Survey on Health Status after Vaccination, 1996-2013 Cumulative Total Report).

The incidence of severe cases (cases deemed to be serious by the reporter) among suspected cases of adverse reactions (adverse events) reported by medical institutions

between its release and June 30, 2019 was 1.1 per 100,000 vaccinations for the DPT-IPV vaccine. The incidence of severe cases (cases deemed to be serious by the reporter) among suspected cases of adverse reactions (adverse events) reported by medical institutions between April 1, 2013 and June 30, 2019 was 1.9 per 100,000 vaccinations for the DPT vaccine and 0.2 per 100,000 vaccinations for the DT vaccine (source: September 2019 documents from the 43rd Working Group Meeting on Adverse Events, the Subcommittee on Vaccination and Vaccines of the Health Sciences Council).

Even in the absence of a serious adverse reaction, if your child is cranky or swelling occurs, consult with a doctor.

Although the incidence of diphtheria, pertussis, tetanus, and polio (acute poliomyelitis) has decreased, these diseases are all associated with serious complications, disabling sequelae, or even death. Therefore, it is recommended to receive vaccination for their prevention.

(3) Polio vaccine (inactivated vaccine)

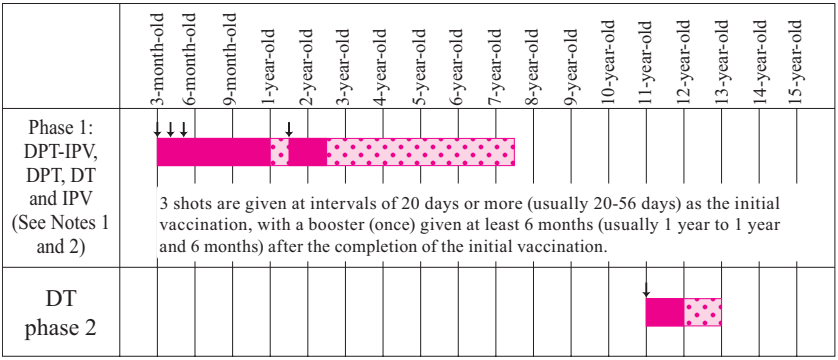
An oral polio vaccine (OPV) was used to eradicate polio in Japan and maintain this state; however, the OPV was replaced with an inactivated poliovirus vaccine (IPV) as a routine vaccination on September 1, 2012 in order to avoid vaccine-associated paralytic poliomyelitis (VAPP), a rare but serious adverse reaction to the OPV which develops in about one out of one million vaccine recipients. The IPV IMOVAX POLIO® subcutaneous injection (produced by Sanofi K.K.) has been used since September 2012.

The IPV includes antigens of three types of polio viruses (I, II and III). Resistance (immunity) to these three types of polio viruses reaches almost 100% with three IPV vaccinations; however, the fourth vaccination is needed because IPV maintains immunocompetence for a shorter time than the OPV.

A domestic clinical trial of IMOVAX POLIO® showed that pain (18.9%), erythema (77.0%), swelling (54.1%), fever of 37.5°C or more (33.8%), drowsiness (35.1%), and irritability (41.9%) were observed after the third vaccination. Precautions of shock and anaphylaxis (frequency unknown) and against convulsions as they were observed in 1.4% are described in the package insert. (See package insert [6th ver.] revised in February 2016)

The incidence of severe cases (cases deemed to be serious by the reporter) among suspected cases of adverse reactions (adverse events) reported by medical institutions between its release and June 30, 2019 was 0.6 per 100,000 vaccinations (source: September 2019 documents from the 43rd Working Group Meeting on Adverse Events, the Subcommittee on Vaccination and Vaccines of the Health Sciences Council).

(4) Vaccination schedule



Note 1: The DPT-IPV, DPT, and DT can also be given to children who have already experienced pertussis. If the DT is given, the initial vaccination is conducted with 2 shots. The DPT-IPV, DPT, and DT can also be given to children who have already experienced any of the diseases of diphtheria, tetanus, or polio.

Note 2: In the phase 1 initial vaccination, the same type of vaccine is usually given the required number of times.

◆ Tuberculosis

(1) Cause and course

Tuberculosis is caused by infection from Mycobacterium tuberculosis. Although the number of tuberculosis patients has markedly decreased in Japan, approximately 20,000 people are newly diagnosed with tuberculosis every year and the disease can be transmitted to children from adults. Immunity against tuberculosis cannot be acquired in the womb, so newborn babies are also at risk of contracting the disease. Infants and children have low immunity against tuberculosis; as a result, they sometimes contract systemic tuberculosis or tuberculous meningitis, resulting in severe secondary complications.

It is recommended to receive a BCG vaccination within 1 year after birth as the BCG vaccine has the effect of preventing serious tuberculosis, such as meningitis and miliary tuberculosis, in infants.

The standard vaccination period is from 5 to 8 months after birth.

(2) BCG vaccine (live vaccine)

The BCG vaccine is made from attenuated Mycobacterium bovis.

The method used to administer the BCG vaccination in Japan is a percutaneous injection using an apparatus with multiple needles that is pressed into two locations on the upper arm. The vaccine should not be given elsewhere on the body due to possible adverse

reactions, including keloid formation. The vaccination site should be allowed to dry away from light for about 10 minutes.

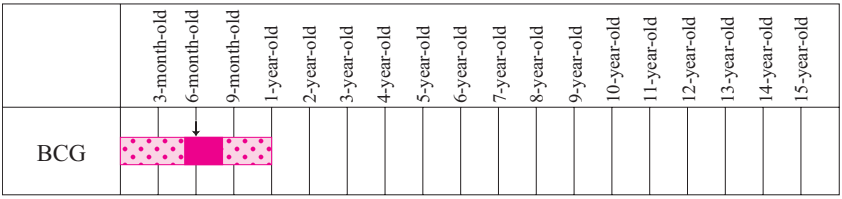
Red pockmarks appear on the vaccination site around 10 days after vaccination, and some may discharge a small amount of pus (fester). This reaction peaks about 4 weeks after vaccination; subsequently, the pockmarks are covered with scabs and heal completely by three months after vaccination, leaving only tiny scars. This scarring is not an abnormal reaction but evidence that a person has acquired immunity through the BCG vaccination. As the vaccination site will heal naturally, keep it clean and do not cover it with a bandage or plaster. However, if the vaccination site is still oozing three months after vaccination, please consult a doctor.

One rare adverse reaction is swelling in the lymph nodes below the armpit on the same side as the vaccination. This reaction can generally be left untreated; however, occasionally the area can grow tender, severely swollen, or, rarely, may fester and naturally tear. Should such a reaction occur, please consult a doctor.

The incidence of severe cases (cases deemed to be serious by the reporter) among suspected cases of adverse reactions (adverse events) reported by medical institutions between April 1, 2013 and June 30, 2019 was 2.7 per 100,000 vaccinations (source: September 2019 documents from the 43rd Working Group Meeting on Adverse Events, the Subcommittee on Vaccination and Vaccines of the Health Sciences Council).

In cases where a child is infected with tuberculosis due to transmission from a family member etc., within 10 days of the injection the vaccination site may show an inflammatory reaction called Koch's phenomenon (redness, swelling, and suppuration at the vaccination site, generally followed in 2 to 4 weeks by decreased redness, swelling, and inflammation, after which the wound scarifies [leaves a scar] and heals). Unlike the usual reaction time (generally about 10 days after vaccination), the Koch phenomenon appears at an early stage, within several days of vaccination. If your child develops a reaction which suggests the Koch phenomenon, promptly consult your municipality or a physician, as your child may require treatment. In such cases, family members and other individuals close to the child who may have transmitted tuberculosis will also require a medical examination.

(3) Vaccination schedule



◆ Measles and rubella

(1) Cause and course

(a) Measles

Measles is caused by infection by the measles virus. Measles is highly contagious and spreads not only through droplets and contact but also through airborne transmission. Without vaccination, many people will contract the disease and there is risk of an epidemic. The main symptoms of prototypical measles are fever, cough, runny nose, bloodshot eyes, eye discharge, and rash. For the first 3 to 4 days, patients have a fever of 38°C, which appears to decline but increases again to 39°C to 40°C, with a rash over the entire body. The fever goes down within 3 to 4 days, and the rash gradually disappears. The parts affected by the rash may remain darker for a while.

The main complications are bronchitis, pneumonia, otitis media, and encephalitis. About 7 to 9 out of 100 people with measles also get otitis media and about 1 to 6 get pneumonia. 1 to 2 out of 1,000 experiences encephalitis. One or two out of 100,000 measles patients develops subacute sclerosing panencephalitis (SSPE), a chronic progressive form of encephalitis.

A serious disease, even in advanced countries with sophisticated medical care, around 1 out of 1,000 measles patients dies. In Japan, approximately 20 to 30 people died annually during the epidemic which occurred in the years around 2000. Globally, cases of measles are once again on the rise, and many children, primarily in developing countries, die from measles.

● Airborne infection (droplet nuclei infection)

With an airborne infection, the virus or bacterium is discharged into the air and infects people in open spaces. Measles, varicella (chickenpox), and tuberculosis are airborne diseases.

(b) Rubella

Rubella is caused by the rubella virus and is spread by droplet infection. The incubation period is 2 to 3 weeks. Prototypical rubella develops with mild cold-like symptoms, and the main symptoms are rash, fever, and posterior cervical lymphadenopathy (lymph nodes swelling in the back of the throat). Conjunctival congestion also occurs. The complications are joint pain, thrombocytopenic purpura, and encephalitis. About 1 of every 3,000 patients get thrombocytopenic purpura, and 1 in 6,000 get encephalitis. Adult patients experience severe symptoms.

When a pregnant woman is infected by the rubella virus before around the 20th week of pregnancy, there is a very high risk of her infant being born with congenital rubella syndrome which may include heart abnormalities, cataracts, hearing impairment, and delayed growth and development.

(2) Combined measles-rubella (MR) vaccine, measles (M) vaccine, rubella (R) vaccine (live vaccine)

The MR live vaccine contains attenuated measles and rubella viruses.

Once your child turns 1 year old, you should have him or her receive the phase 1 vaccination as soon as possible.

Both the measles and rubella vaccines give 95% or more of children immunity after one injection, but out of caution in case of non-response to the first dose and to prevent age-related decline of immunity, a second injection (phase 2 vaccination) is now performed.

Even if your child received the measles and rubella vaccine before his or her first birthday, it is not counted in the number of vaccinations received because vaccination under one year of age is insufficient for acquiring immunity. Have him or her receive the routine phase 1 vaccination once he or she turns 1 year old, and the phase 2 vaccination once the appropriate age is reached.

Eligibility for the phase 2 vaccination is the year before admission into elementary school, that is, children in their final year of kindergarten or nursery school.

For the phase 1 and 2 vaccinations, the combined measles-rubella (MR) vaccine is used.

The combined measles-rubella (MR) vaccine can also be used for individuals who have already contracted measles or rubella.

If your child has received a gamma globulin injection for the purpose of treating or preventing illness, please consult your physician for the appropriate timing of vaccination.

Major adverse effects of the MR vaccine are fever and rash. In phase 1, a fever beginning during the observation period (0-28 days after the vaccine) was observed in about 16.6% of the children, with a high fever of 38.5°C or more observed in about 10.6%. In phase 2, a fever beginning during the observation period (0-28 days after the vaccine) was found in about 6.0% of the children, with a high fever of 38.5°C or more observed in about 3.4%.

Rashes were observed in about 4.3% and 1.0 % in phases 1 and 2, respectively.

Other adverse reactions observed were local reactions including redness, swelling (puffiness), and induration (stiffness) in the injection site, and urticaria, swollen lymph nodes, joint pain, and febrile seizure (source: The 2013 Survey on Health Status after Vaccination, 1996-2013 Cumulative Total Report).

The data concerning adverse reactions to the measles and the rubella vaccines shows that anaphylaxis, thrombocytopenic purpura, encephalitis, and seizure may occur rarely.

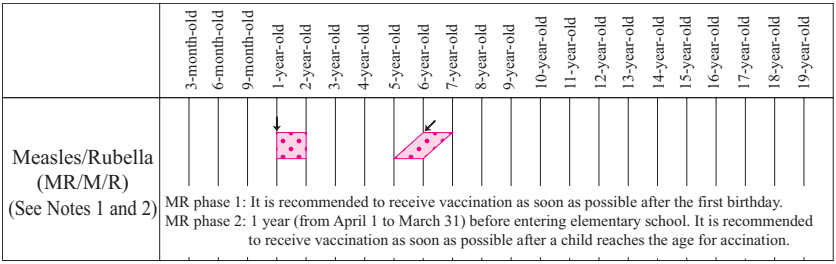
Febrile seizures (seizures caused by a fever) have occasionally (about 1 child in 300 children) been reported after measles vaccination. In addition, there have been reports of children experiencing encephalitis/encephalopathy in extremely rare cases (1 child or less in 1-1.5 million children).

The incidence of severe cases (cases deemed to be serious by the reporter) among suspected cases of adverse reactions (adverse events) reported by medical institutions between April 1, 2013 and April 30, 2019 was 0.9 per 10,000 vaccinations (source: August 2019 documents from the 42nd Working Group Meeting on Adverse Events, the Subcommittee on Vaccination and Vaccines of the Health Sciences Council).

Although the rubella vaccine is a live vaccine and the rubella virus multiplies in the body similarly to the measles vaccine, a vaccinated person does not infect those around him or her.

Measles causes severe symptoms and may result in sequelae or death. When a pregnant woman contracts rubella, her infant may be born with congenital rubella syndrome which may include heart abnormalities, cataracts, retinopathy, hearing impairment, and intelligence impairment. Make sure you are vaccinated so as to prevent contracting these diseases or transmitting them to others.

(3) Vaccination schedule



Note 1: A simultaneous vaccination for measles and rubella in phase 1 and 2 is given using the combined measles-rubella (MR) vaccine.

Note 2: Individuals who have experienced either measles or rubella before can receive the vaccine for the disease they have not experienced or the measles-rubella (MR) vaccine and are normally given the MR vaccine.

Note 3: Men born between April 2, 1962 and April 1, 1979 have been added to the list of those eligible for routine vaccination concerning rubella (phase 5 routine vaccination for rubella).

◆ Varicella (chickenpox)

(1) Cause and course

Varicella (chickenpox) is an acute infectious disease caused by initial infection with the varicella-zoster virus (“VZV”). It is one of the most infectious diseases, spread by direct

contact, droplets, and airborne infection. Once a person is infected, the virus remains dormant in the body (in the trigeminal ganglia and other cerebral ganglia, and in the dorsal root ganglia) and reactivates to cause herpes zoster (shingles) when the person ages, or when the immune system is compromised.

The incubation period of varicella (chickenpox) is generally about 2-3 weeks (10-21 days). The main symptom of prototypical varicella (chickenpox) is a characteristic rash with itching. There may also be a fever. The rash begins as raised red spots, progressing in 3 or 4 days to blisters that crust over and form scabs before healing. Although the rash tends to be distributed on the abdomen, back, and face, it also characteristically appears on the scalp and other parts which are covered with hair.

Varicella usually clears spontaneously in about 1 week, but in rare cases it can be accompanied by encephalitis, pneumonia, or liver function abnormality. Antiviral medication (e.g. Acyclovir) is sometimes used. It is not unusual for bacterial infections to develop via the skin and lead to purulence. In some cases, complications such as sepsis and other severe bacterial infections may occur. High-risk patients (patients with malignant tumors such as acute leukemia or patients who are or may be immunosuppressed due to treatment) are particularly likely to develop severe symptoms.

In accordance with regulations such as the Enforcement Regulations for the School Health and Safety Act, children are to refrain from attending nursery school, kindergarten, or elementary/middle/high school until all of the rash has crusted over (formed scabs).

When adults develop varicella (chickenpox), symptoms tend to become more severe compared to children.

(2) Varicella (chickenpox) vaccine (live vaccine)

This is a live vaccine containing attenuated VZV. It was developed in Japan ahead of the rest of the world. About 20% of the individuals who receive this vaccine once experience varicella (chickenpox) later, but in a milder form. The vaccine is given twice to ensure that infection does not occur.

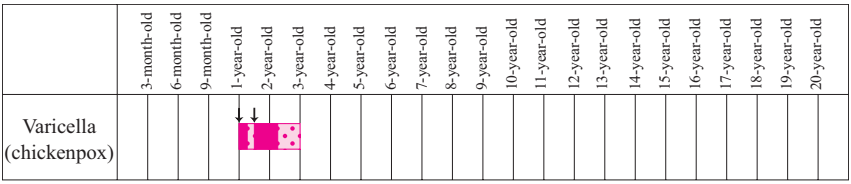
It has been shown that vaccine administration within 3 days of exposure to a varicella patient is effective in preventing disease. This kind of vaccination is also used to prevent hospital-acquired infection.

Almost no adverse reactions are observed in healthy children and adults; however, fever and rash occasionally develop, and local redness, swelling (puffiness), and induration (stiffness) are observed in rare cases. High-risk patients (patients who may be immunosuppressed due to the effects of treatment for acute lymphatic leukemia or nephrotic syndrome) may receive the vaccination, provided that certain conditions are met. However, the patient may develop a fever with raised red spots and blisters 14 to 30 days after vaccination. (See package insert [21st ver.] revised in November 2018.)

The incidence of severe cases (cases deemed to be serious by the reporter) among suspected cases of adverse reactions (adverse events) reported by medical institutions between April 1, 2013 and April 30, 2019 was 0.8 per 100,000 vaccinations (source: August 2019 documents from the 42nd Working Group Meeting on Adverse Events, the Subcommittee on Vaccination and Vaccines of the Health Sciences Council).

After being made a routine vaccination on October 2014, the incidence of varicella (chickenpox) decreased dramatically. The varicella vaccine can be given at the same time as the MR vaccine. Children aged 12 months to no later than 36 months are given a freeze-dried live attenuated varicella vaccine, with the first injection given when the child is 12 months to no later than 15 months and the second injection given after an interval of at least 3 months with the standard interval being between 6 to 12 months. Children who already received the varicella vaccine as a voluntary vaccination are deemed to have received the number of injections he or she has already undergone.

(3) Vaccination schedule



◆ Japanese encephalitis

(1) Cause and course

Japanese encephalitis is caused by the Japanese encephalitis virus. The Japanese encephalitis virus is transmitted by mosquitoes carrying viruses that have multiplied in pigs and other hosts. After an incubation period of 7 to 10 days, it may develop into acute encephalitis with symptoms such as high fever, headache, vomiting, disturbance of consciousness, and convulsions. Japanese encephalitis does not spread from person to person.

One in 100-1,000 people infected with the virus develops encephalitis, etc. Some people develop meningitis, while others may only experience symptoms like a summer cold. The fatality rate of encephalitis is about 20-40%, but many people suffer from nervous system sequelae after recovering from the disease.

In Japan, the disease occurs mainly in the western areas, but the Japanese encephalitis virus is found throughout the nation and especially in western Japan. Japanese encephalitis outbreaks among domesticated pigs occur yearly from June to around October, during which time approximately 80% of pigs are infected in some geographical areas. In the

past, the disease was prevalent among small and school-age children, but due to the wider use of vaccination and changes in living environments, the number of patients has decreased. In recent years, patients have mostly been elderly, but in 2015, a 10-months old infant in Chiba prefecture was determined to have Japanese encephalitis. There were also 11 reported incidents in 2016, mostly in elderly people. This was the first time the number of patients exceeded 10 per year since 1992.

(2) Freeze-dried Japanese encephalitis vaccine (inactivated vaccine)

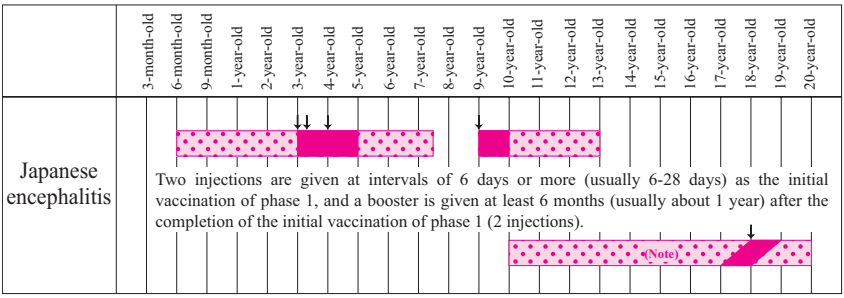
The freeze-dried cell culture-derived Japanese encephalitis vaccine in use in Japan today is created by growing the virus in Vero cells and killing (inactivating) the virus with a substance such as formalin, after which it is refined.

The 2013 Survey on Health Status after Vaccination (the Ministry of Health, Labour and Welfare: MHLW) is a summary of surveys relating to this vaccine (an adverse reaction survey, in which not all reactions can be determined to be adverse reactions to the vaccine, but which show changes in symptoms after injection of the vaccine). According to this Survey, fevers of at least 37.5°C were observed most frequently on the day after the first injection of the phase 1 vaccine, in 2.4% of vaccine recipients, followed by 1.9% on the day of the injection. Fevers of 38.5°C or higher were seen in 1.0% on the day following the injection and 0.8% on the day of the injection. The incidence of local reactions such as swelling of the vaccination site was 1.4% on the day following the first injection of the phase 1 vaccine, and 0.4% on the second day of the same. Local reactions such as swelling of the vaccination site were seen most frequently in the phase 2 vaccination, with the peak at 3.8% on the day after injection.

The incidence of severe cases (cases deemed to be serious by the reporter) among suspected cases of adverse reactions (adverse events) reported by medical institutions between November 1, 2012 and June 30, 2019 was 0.7 per 100,000 vaccinations (source: September 2019 documents from the 43rd Working Group Meeting on Adverse Events, the Subcommittee on Vaccination and Vaccines of the Health Sciences Council).

Eligibility for the phase 1 routine vaccination is children between 6 and 90 months after birth. The standard schedule is to give two injections separated by an interval of 6 to 28 days from the day the child turns 3 and before his or her fourth birthday, and one injection from the fourth birthday to before the child turns 5. Eligibility for the phase 2 routine vaccination is children from 9 years to before he or she turns 13. The standard schedule is to give one injection between the child's ninth and tenth birthdays.

(3) Vaccination schedule



Note: Children born between April 2, 1995 and April 1, 2007 who were unable to receive the phase 1 and 2 vaccine due to the suspension of active recommendation in 2005 are able to receive the vaccine as a routine vaccination up to the age of 20.

(4) Special consideration for vaccination (to secure opportunities for vaccination for children who were unable to receive the vaccine due to suspension of active recommendation in 2005)

A. Children born between April 2, 2007 and October 1, 2009 who have not received their phase 1 (3 injections) Japanese encephalitis vaccination by March 31, 2010 are eligible for the following measures to secure opportunities for vaccination for children who are either between 6 to 90 months of age or from 9 years to under 13 years.

(A) Children who received the first injection of phase 1 and who have 2 injections remaining are to be given two injections of freeze-dried cell culture-derived Japanese encephalitis vaccine separated by an interval of at least 6 days. The first injection and the 2 injections mentioned herein are to be separated by an interval of at least 6 days.

(B) Children who received the first 2 injections of phase 1 and who have 1 injection remaining are to be given 1 injection of freeze-dried cell culture-derived Japanese encephalitis vaccine. The first 2 injections and the 1 injection mentioned herein are to be separated by an interval of at least 6 days.

(C) Children who have not received any of the phase 1 injections are to be given 2 injections of freeze-dried cell culture-derived Japanese encephalitis vaccine separated by an interval of at least 6 days, with the standard interval being 6 to 28 days, followed by 1 booster at least 6 months after the second injection, with the standard schedule for the booster being about 1 year after the second injection.

(D) According to (A), (B), and (C) above, children 9 years to under 13 years who have received all of the phase 1 injections and have yet to receive the phase 2 injection,

are to be given 1 injection of freeze-dried cell culture-derived Japanese encephalitis vaccine after an interval of at least 6 days.

B. Children under the age of 20 who were born between April 2, 1995 and April 1, 2007 and who may not have received the phase 1 (three injections) and phase 2 (one injection) vaccine due to suspension of active recommendation on May 30, 2005 are eligible for the following measures to secure opportunities for vaccination.

(A) Children who have 3 injections remaining of phase 1 and 2 (children who received 1 injection of the initial vaccination in phase 1 [children who received the first injection]) are to be given 2 injections of freeze-dried cell culture-derived Japanese encephalitis vaccine separated by an interval of at least 6 days, with the fourth injection for children at least 9 years to age to be given after an interval of at least 6 days after the third injection.

(B) Children who have 2 injections remaining of phase 1 and 2 (children who received two injections of the initial vaccination in phase 1 [children who received the second injection]) are to be given the third injection of freeze-dried cell culture-derived Japanese encephalitis vaccine after an interval of at least 6 days, with the fourth injection for children at least 9 years to age to be given after an interval of at least 6 days after the third injection.

(C) Children who are to receive phase 2 of the vaccination (children who have completed phase 1 injections [children who received the third injection]) are to be given the fourth injection for children at least 9 years to age after an interval of at least 6 days after the third injection.

(D) Children who have not received any of the phase 1 injections are to be given 2 injections of freeze-dried cell culture-derived Japanese encephalitis vaccine separated by an interval of at least 6 days, with the standard interval being 6 to 28 days, followed by 1 booster at least 6 months after the second injection, with the standard schedule for the booster being about 1 year after the second injection. The fourth injection for children at least 9 years to age is to be given after an interval of at least 6 days after the third injection.

Because there was insufficient recommendation of phase 2 vaccination for persons who will turn 18 between 2017 and 2024 (persons born between April 2, 1999 and April 1, 2007) due to suspension of active recommendation from May 30, 2005 to March 31, 2010, the measures in (4) were adopted for the purpose of active recommendation of the vaccine to persons turning 18 in every applicable year.

A pregnant or possibly pregnant woman aged 13 years or more is not allowed to receive vaccination in principle and can receive vaccination only if the advantage of vaccination is confirmed to be superior to the risk.

You can ask questions on vaccination and receive latest information from your municipality. A Q&A is available from the website of the Ministry of Health, Labour and Welfare: “Q&A on Japanese encephalitis vaccination” (Japanese)
(https://www.mhlw.go.jp/bunya/kenkou/kekkakukansenshou21/dl/nouen_qa.pdf)

◆ Human papillomavirus infection (protection against cervical cancer)

(1) Cause and course

The human papillomavirus (HPV) is a common virus which infects many people, of whom some women develop cervical cancer. Out of the more than 100 types of HPV, types 16 and 18 are considered to be causal for approximately 50 to 70% of cases of cervical cancer. Most HPV infections clear spontaneously and the virus becomes undetectable. However, in some women, over the course of up to 20 years, precancerous lesions and then cervical cancer will develop. Every year, about 10,000 women develop cervical cancer in Japan, and an estimated 2,700 die from the disease (source: “Cancer Information Service,” Center for Cancer Control and Information Services, National Cancer Center). In addition to vaccines to prevent HPV infection, early detection and early treatment of precancerous lesions through cervical cancer screening tests hold promise for decreasing incidence and mortality rates of this disease.

(2) Recombinant adsorbed bivalent human papillomavirus-like particle vaccine (Cervarix®) and recombinant adsorbed tetravalent human papillomavirus-like particle vaccine (Gardasil®) (inactivated vaccine)

Vaccines to prevent cervical cancer that are available in Japan are a bivalent vaccine (Cervarix®) containing antigens to the HPV type 16 and 18 viruses, which are most frequently detected from domestic and foreign patients with cervical cancer, and a tetravalent vaccine (Gardasil®) containing the type 6 and 11 viruses which are causes of condyloma acuminatum and recurrent respiratory papillomatosis. In foreign studies of persons not infected with HPV, both vaccines were shown to be highly effective in preventing both infection and precancerous lesions. Therefore, countries are recommending that the vaccination be given to young people before their first sexual contact.

Adverse reactions described in domestic package inserts include local reactions such as pain (83-99%), redness (32-88%) and swelling (28-79%) at the injection site; and systemic reactions including slight fever (5-6%) and malaise; however, most of these are transient and disappear (see the following package inserts: Cervarix® [12th ver.] revised in April 2019; Gardasil® [5th ver.] revised in May 2019).

The incidence of severe cases (cases deemed to be serious by the reporter) among suspected cases of adverse reactions (adverse events) reported by medical institutions between its release and April 30, 2019 was 7.8 per 100,000 vaccinations for Cervarix® and 9.7 per 100,000 vaccinations for Gardasil® (source: November 2019 documents from the 42nd Working Group Meeting on Adverse Events, the Subcommittee on Vaccination and Vaccines of the Health Sciences Council).

Vaccinated persons still need routine cervical cancer screening because the vaccine may not always provide sufficient immunization and does not protect against all HPV types which cause cervical cancer.

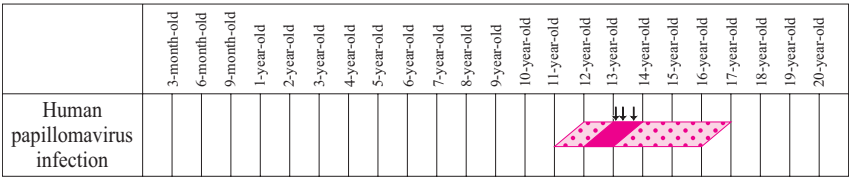
a) When using the recombinant adsorbed bivalent human papillomavirus-like particle vaccine for the prevention of human papillomavirus infection, the standard vaccination period is from the first to the final day of the year in which the individual turns 13. The standard schedule is to give 2 injections separated by an interval of 1 month, followed by another injection after an interval of at least 6 months after the first injection. If said schedule cannot be followed, 2 injections are given separated by an interval of at least 1 month, followed by 1 injection after an interval of at least 5 months after the first injection, and 2.5 months after the second injection.

b) When using the recombinant adsorbed tetravalent human papillomavirus-like particle vaccine for the prevention of human papillomavirus infection, the standard vaccination period is from the first to the final day of the year in which the individual turns 13. The standard schedule is to give 2 injections separated by an interval of 2 months, followed by another injection after an interval of at least 6 months after the first injection. If said schedule cannot be followed, 2 injections are given separated by an interval of at least 1 month, followed by 1 injection after an interval of at least 3 months after the second injection.

c) Since there are no data about the safety, immunogenicity, and efficacy concerning interchangeability between the recombinant adsorbed bivalent human papillomavirus-like particle vaccine and the recombinant adsorbed tetravalent human papillomavirus-like particle vaccine, a child is vaccinated using only 1 of the 2 vaccines.

d) Syncope, a vasovagal reaction, sometimes occurs after vaccination against human papillomavirus infection. Therefore, to prevent fainting due to syncope, a child who has been vaccinated should be seated and observed, and the child should be instructed not to stand if possible, for 30 minutes after injection.

(3) Vaccination schedule



(4) Response concerning routine human papillomavirus vaccination (as of end of December 2019)

At the June 14, 2013 joint meeting of Working Group Meeting on Adverse Events, the Subcommittee on Vaccination and Vaccines of the Health Science Council and the Subcommittee on Drug Safety of the Committee on Drug Safety in the Pharmaceutical Affairs and Food Sanitation Council, it was set forth that "due to sustained pain whose relationship with the vaccine cannot be ruled out being observed after vaccination with the HPV vaccine, the routine vaccination should not be actively recommended until the frequency of onset of this adverse reaction is further elucidated and appropriate information can be provided to citizens," and the decision was made by the Ministry of Health, Labour and Welfare to suspend active recommendation of the vaccination. The safety of the HPV vaccine is being deliberated in the above Council on the basis of a wide range of study data, and the diverse symptoms regarded as having appeared after injection of the HPV vaccine are believed to be functional somatic symptoms (not assumed to be psychogenic). Although causal links with vaccine injection are not clear, it has become known that there have been a certain number of people not injected with HPV vaccine who have demonstrated diverse symptoms similar to those reported in persons who received the vaccine. The national government has designated at least one medical institution in each of the 47 prefectures to provide diagnosis and treatment for pain, regardless of the cause. Eligibility evaluations are also being conducted concerning health injury relief for individual cases. As of the end of December 2019, the suspension of active recommendation still holds, but it is positioned as a vaccine necessary to protect women from cancer by the WHO and Japanese medical associations and persons who wish to be inoculated may receive the vaccine as a routine vaccination.

Persons who would like to know more about the safety and efficacy of the HPV vaccines should also see the brochure on the HPV vaccines which has been published on the Ministry of Health, Labour and Welfare website (https://www.mhlw.go.jp/bunya/kenkou/kekkakukansenshou28/).

8. What to do if your child experiences an adverse reaction to a vaccination

(1) Normally observed reactions

Depending on the type of vaccine, fever, redness, swelling (puffiness), and induration (stiffness), and rashes at the injection site occur fairly often. In many cases, these symptoms disappear within several days and are not a cause for concern.

(2) Serious adverse reactions

If your child has severe swelling at the vaccination site, or has fever or seizures after vaccination, consult a doctor. If your child's symptoms meet the criteria for reporting adverse reactions after vaccination, the doctor will inform the Pharmaceuticals and Medical Devices Agency (PMDA).

Although adverse reactions depend on the type of vaccine, vaccination extremely rarely (about one in several million people) causes serious adverse reactions, such as encephalitis and neuropathy. Such cases will be evaluated on the basis of Japan's basic approach in regard to relief programs, namely that "rigorous medical causation is not imperative and that relief shall also apply in cases where the possibility of symptoms which appeared after inoculation having been caused by the vaccination cannot be ruled out." On this basis, the patient is considered eligible for compensation for injury to health under the Preventive Vaccination Law if the Minister of Health, Labour and Welfare gives authorization.

(3) Coincidental reactions

Symptoms that occur soon after vaccination are often thought to have been caused by vaccination. However, sometimes these symptoms are caused by another infection that happens to develop simultaneously. This is then called a "coincidental reaction."

(4) Aid system for people with impaired health due to vaccination

a) A person who has an adverse reaction due to routine vaccination and whose ability to perform daily activities is impaired due to injury to health can be compensated by the government according to the Preventive Vaccination Law.

b) The compensation consists of payment of medical expenses, medical benefits, an annuity for disabled children, a disability annuity, lump-sum death benefits, and funeral expenses, all of which are designated by law according to the severity of the injury to health. All compensation, except lump-sum death benefits and funeral expenses, is continually paid until the completion of treatment or improvement in the injury to health.

c) Compensation is paid to the patient after the relevant injury has been certified to be caused by vaccination by a governmental review committee comprising specialists in vaccination, infection medicine, law, and related disciplines, who discuss the causal relationship of the relevant injury with vaccination, i.e., whether the relevant injury was caused by vaccination or other factors (infection before or after vaccination, or other causes).

d) When vaccination is desired after the designated period, vaccination is considered not to be controlled under the Preventive Vaccination Law (voluntary vaccination). In the event a child is injured by vaccination in this situation, he/she will receive compensation according to the Pharmaceuticals and Medical Devices Agency Law; however, the subject and the amount of compensation differ from those of the Preventive Vaccination Law.

* In the event you need to submit an application for compensation, consult with your municipal office in charge of vaccination.

[Reference 1] Diseases preventable by voluntary vaccination and overview of vaccines

Voluntary vaccination, which is not subject to the Preventive Vaccination Law, is conducted in consultation between a vaccine recipient (parents/guardians) and a doctor and is not promoted by the government; however, the vaccines used are approved by the Ministry of Health, Labour and Welfare under the Act on Securing Quality, Efficacy and Safety of Pharmaceuticals, Medical Devices, Regenerative and Cellular Therapy Products, Gene Therapy Products, and Cosmetics (Act on the Pharmaceuticals and Medical Devices Agency).

Voluntary vaccinations include vaccinations to prevent seasonal influenza (a routine vaccination for adults from 65 years), mumps, hepatitis A, rotavirus (a routine vaccination from October 2020), yellow fever, rabies, tetanus, and meningococcal disease, and also refer to routine vaccinations when they are given outside the eligible age range or period.

The seasonal influenza, mumps, and rotavirus vaccines that many children receive are explained below.

In the unlikely event a child is injured by a vaccination, he/she will receive compensation according to the Pharmaceuticals and Medical Devices Agency Law; however, the subject and the amount of compensation differ from those of the Preventive Vaccination Law (routine vaccination).

* In the event you need to submit the application for compensation, consult with your municipal office in charge of vaccination.

◇ Seasonal influenza vaccine (inactivated vaccine)

The seasonal influenza vaccination for the elderly is designated as a routine vaccination by the Preventive Vaccination Law; that for children is considered a voluntary vaccination.

(1) Cause and course

Seasonal influenza is an acute respiratory infection which suddenly develops systemic symptoms including fever, chill, headache, and muscle pain. The incubation period is 24- 72 hours. Respiratory symptoms (stuffy nose, sore throat, and cough, etc.) often appear later. Patients without complications recover within 2-7 days. Complications, especially pneumonia and encephalopathy, are severe.

(2) Overview of vaccine

2 lineages of seasonal influenza type A (H1N1 and H3N2) and 2 of type B (Yamagata and Victoria) are injected into the chorioallantoic membrane of embryonated chicken eggs and allowed to multiply. After ether treatment to isolate the hemagglutinins on the viral surface, formalin inactivation is performed to obtain the vaccine. Decisions are made each

year on which viral strains to include in the seasonal influenza vaccine, on the basis of epidemiological and virological assessments.

Reports vary on the effectiveness of the influenza vaccine in infants and young children, with most studies indicating the vaccines provide about 20-60% protection against influenza. There are also a few studies which suggest vaccination may be effective in preventing severe disease in infants and young children.

Embryonated chicken eggs are used in the manufacturing process of the seasonal influenza vaccine; however, the egg components are eliminated in the purification process. Nevertheless, caution is necessary when vaccinating persons with clear allergies to eggs. Persons who experience an anaphylactic reaction to chicken eggs and meat are asked to consult with a specialized facility if they wish to receive the vaccine.

The incidence of severe cases (cases deemed to be serious by the reporter) among suspected cases of adverse reactions (adverse events) reported by medical institutions between October 1, 2018 and April 30, 2019 was 0.1 per 10,000 vaccinations (source: August 2019 documents from the 42nd Working Group Meeting on Adverse Events, the Subcommittee on Vaccination and Vaccines of the Health Sciences Council).

◇ Mumps vaccine (live vaccine)

(1) Cause and course

Mumps is caused by the mumps virus and is spread by droplet infection. The viruses proliferate and spread over the body and cause lesions in various internal organs. The incubation period is 2-3 weeks. The period which an infected person may infect those around them is believed to be from several days before onset to 5 days after start of swelling of the parotid gland, submaxillary gland, or sublingual gland. The primary symptom is swelling of the parotid gland. The swelling is painful and exhibits indistinct borders. The submaxillary gland and/or sublingual gland may also develop swelling, and may also be accompanied by fever. When an older child or adult contracts the disease, the symptoms are marked and the frequency of complications is greater. The most frequently encountered complication is aseptic meningitis, at a diagnostic frequency of 1-10%. Although lower in frequency, other complications include encephalitis and pancreatitis. Adolescent and older men may also develop the complication of orchitis and women, oophoritis. Special caution is required for the difficult to treat complication of hearing loss.

(2) Overview of vaccine

This is a live vaccine containing attenuated mumps viruses. The post-inoculation seroconversion rate is high, at more than 90%, and in domestic outbreak investigation, the effect of the vaccine is believed to be about 80%. Most people who develop the disease despite being vaccinated generally experience a milder form of the disease. (Report by Mumps Vaccine Working Team of the Vaccination Working Group)

Possible adverse reactions to mumps vaccines available on the market include mild swelling of the parotid glands in 1% of the individuals who received this vaccine. The frequency of the adverse reaction of aseptic meningitis is stated to be about 1 in every 1,600-2,300 persons vaccinated (from vaccine package insert); however, although it has recently been reported that there are differences in frequency depending on the age of vaccination, it has been reported that the frequency is even lower. Given the 1-10% incidence of the complication of aseptic meningitis in spontaneous infections; as well as the risk of hearing loss, the need for extended absence from nursery or elementary school when infected; and the high incidence in children aged 3-6; it is recommended that children be vaccinated at the same time as, or as soon as possible after, MR vaccine phase 1, the first varicella vaccine injection, the Hib vaccine booster, and the pediatric pneumococcus vaccine booster, etc., and at the very latest, no later than 3 years of age, which is the high incidence age. To ensure the preventative effect, the Japan Pediatric Society recommends the second vaccination to be given at the same time as the MR vaccine phase 2.

◇ Rotavirus vaccine (live vaccine)

(1) Cause and course

Gastroenteritis due to rotavirus manifests as sudden vomiting and frequent watery diarrhea, with fever present in 30-50% of cases. About 500,000 children aged less than 5 die every year due to rotavirus infection throughout the world, and more than 80% of them are in developing countries. Although fatalities are rare in advanced countries, some patients can require hospitalization due to complications such as dehydration and seizure associated with vomiting and diarrhea, renal failure, and/or encephalopathy. Rotavirus is the most common cause of severe acute gastroenteritis requiring hospitalization.

(2) Overview of vaccine

Vaccines consist of a monovalent vaccine containing live attenuated human rotavirus and a pentavalent vaccine containing 5 bovine-human reassortant rotaviruses. It has been suggested that both vaccines have an effect in the prevention of infection by rotavirus G1P [8], G2P [4], G3P [8], G4P [8], and G9P [8]. The vaccine cannot prevent gastroenteritis caused by another virus.

The monovalent vaccine is orally administered twice (1st: 6 weeks after birth or older, 2nd: up to 24 weeks after birth at intervals of at least 4 weeks), and the pentavalent vaccine is orally administered 3 times (1st: 6 weeks after birth or older, 2nd and 3rd: up to 32 weeks after birth at intervals of at least 4 weeks).

It is recommended that the initial vaccination be given no later than 14 weeks and 6 days after birth.

The incidence of rotavirus infection has fallen dramatically in both advanced and developing countries which have introduced the rotavirus vaccine. Not only direct but also herd immunity effects have been confirmed.

If symptoms of intussusception (exhaustion, pale face, repeated vomiting, repeated dysphoria, bloody stool, flatulence) are observed after vaccination, particularly within one week after the initial vaccination, promptly consult a doctor.

Infants with untreated congenital abnormality of the gastrointestinal tract (Meckel diverticulum etc.) which may increase the onset of invagination, infants with a history of invagination, and infants with severe combined immunodeficiency disease (SCID) cannot receive the vaccine.

The rotavirus vaccine will become a routine vaccination from October 2020; as the vaccination age range has been determined based on effectiveness and safety, please have your child receive the vaccination at the appropriate age.

Form 2

Vaccine Screening Questionnaire for [ ] (infant/schoolchild)

			Body temperature before interview		Degrees
Address					
Child's Name		M	Birth date	Born on / / (d/m/y)	
Parent/Guardian's Name		F		Age (years months)	

Questionnaire for Vaccination	Answer		Doctor's comment
Have you read the document (sent to you previously by the municipal office) explaining the vaccination that will be administered today?	Yes	No	
Please answer the following questions about the child. Birth Weight Did the child have any abnormal findings at delivery? ( ) g Did the child have any abnormal findings after birth? Was any abnormality identified at an infant health check?	Yes Yes Yes	No No No	
Is the child sick today? If so, describe the nature of the illness. ( )	Yes	No	
Has the child been ill in the past month? Disease name ( )	Yes	No	
Has any family member or friend of the child had measles, rubella, chickenpox or mumps in the past month? Disease name ( )	Yes	No	
Has the child been exposed to anyone with tuberculosis (including family members)?	Yes	No	
Has the child been vaccinated in the past month? Vaccine name ( )	Yes	No	
Does the child have a congenital anomaly, heart, kidney, liver, central nerve disease, immune deficiency, or any other diseases for which you have consulted a doctor? Disease name ( )	Yes	No	
Where relevant, did the doctor who manages the above disease agree with today's vaccination?	Yes	No	
Has the child had a seizure (spasm or fit) in the past? If so, at what age did it occur? ( )	Yes	No	
If you answered "yes" to the preceding question, did the child have a fever at that time?	Yes	No	
Has the child ever had a rash or urticaria (hives or 'nettle rash') as a reaction to medications or food or become ill after eating certain foods or receiving certain medications?	Yes	No	
Does the child have a family member or relative with a congenital immunodeficiency?	Yes	No	
Has the child had a serious reaction to a vaccine in the past? Vaccine name ( )	Yes	No	
Has any family member or relative of the child had a serious reaction to a vaccine in the past?	Yes	No	
Has the child received a transfusion of blood or blood products or been given a medicine called gamma globulin in the past 6 months?	Yes	No	
Do you have any questions about today's vaccination?	Yes	No	
Doctor's comment Based on the above answers and the results of interview, I have decided that the child (can / should not) receive a vaccination today. I have explained to the parent/guardian the information concerning the benefits and side effects of vaccination and the support provided to people who have had adverse events associated with vaccination. Signature or Name and Seal of Doctor:			

This screening questionnaire is used to improve the safety of vaccination. The child has been interviewed by the doctor, and information concerning the benefits, objectives, and risks (including serious side effects) of vaccination has been explained to me by the doctor, as has the nature of support provided if adverse events occur. I believe that I understand this information.
I (do / do not)* give consent for the child to be vaccinated. * Please circle your choice.
I understand the above and agree that this questionnaire can be submitted to the municipal office.
Signature of Parent / Guardian:

Vaccine Name	Dosage	Institution / Doctor Name / Date Administered
Vaccine Name Lot Number [Caution] Confirm that the expiration date of the vaccine is valid.	* (Subcutaneous injection) mL	Institution: Doctor Name: Date Administered: / / (d/m/y)

[Note] Gamma globulin is a blood product that is injected to prevent infections, such as type A hepatitis, and to treat severe infections. Certain vaccines (for example, measles vaccine) are occasionally less effective in people who have received this product in the preceding 3 to 6 months.

* In the case of BCG vaccination, describe, for example, "percutaneous vaccination using a BCG apparatus with multiple needles at a specified volume."

Form 8

Hepatitis B Vaccine Screening Questionnaire

			Body temperature before interview		Degrees
Address					
Child's Name		M	Birth date	Born on / / (d/m/y)	
Parent/Guardian's Name		F		Age (years months)	

Questionnaire for Vaccination	Answer		Doctor's comment
Have you read the document (sent to you previously by the municipal office) explaining the vaccination that will be administered today?	Yes	No	
Please answer the following questions about the child. Birth Weight Did the child have any abnormal findings at delivery? ( ) g Did the child have any abnormal findings after birth? Was any abnormality identified at an infant health check?	Yes Yes Yes	No No No	
Is the child sick today? If so, describe the nature of the illness. ( )	Yes	No	
Has the child been ill in the past month? Disease name ( )	Yes	No	
Has any family member or friend of the child had measles, rubella, chickenpox or mumps in the past month? Disease name ( )	Yes	No	
Has the child been vaccinated in the past month? Vaccine name ( )	Yes	No	
Does the child have a congenital anomaly, heart, kidney, liver, central nerve disease, immune deficiency, or any other diseases for which you have consulted a doctor? Disease name ( )	Yes	No	
Where relevant, did the doctor who manages the above disease agree with today's vaccination?	Yes	No	
Has the child had a seizure (spasm or fit) in the past? If so, at what age did it occur? ( )	Yes	No	
If you answered "yes" to the preceding question, did the child have a fever at that time?	Yes	No	
Has the child ever had a rash or urticaria (hives or 'nettle rash') as a reaction to medications or food or become ill after eating certain foods or receiving certain medications?	Yes	No	
Has the child a Latex sensitivity?*	Yes	No	
Does the child have a family member or relative with a congenital immunodeficiency?	Yes	No	
Has the child had a serious reaction to a vaccine in the past? Vaccine name ( )	Yes	No	
Has any family member or relative of the child had a serious reaction to a vaccine in the past?	Yes	No	
Has the child received a transfusion of blood or blood products or been given a medicine called gamma globulin in the past 6 months?	Yes	No	
Did the child receive the hepatitis B vaccine after birth as part of the mother-to-infant transmission prevention program?	Yes	No	
Do you have any questions about today's vaccination?	Yes	No	

Doctor's comment

Based on the above answers and the results of interview, I have decided that the child (can / should not) receive a vaccination today.
I have explained to the parent/guardian the information concerning the benefits and side effects of vaccination and the support provided to people who have had adverse events associated with vaccination.

Signature or Name and Seal of Doctor:

This screening questionnaire is used to improve the safety of vaccination. The child has been interviewed by the doctor, and information concerning the benefits, objectives, and risks (including serious side effects) of vaccination has been explained to me by the doctor, as has the nature of support provided if adverse events occur. I believe that I understand this information.
I (do / do not)* give consent for the child to be vaccinated. * Please circle your choice.
I understand the above and agree that this questionnaire can be submitted to the municipal office.

Signature of Parent / Guardian:

Vaccine Name	Dosage	Institution / Doctor Name / Date Administered
Vaccine Name Lot Number [Caution] Confirm that the expiration date of the vaccine is valid.	* (Subcutaneous injection) mL	Institution: Doctor Name: Date Administered: / / (d/m/y)

(Note) Latex sensitivity is an immediate hypersensitivity to natural rubber products. The condition is suspected when an allergic reaction is observed upon the use of latex gloves. Also seek consultation if there is an allergy to fruits etc. with cross-reactivity to latex (banana, chestnut, kiwifruit, avocado, melon, etc.).

References (for details, see: http://www.yoboseshu-rc.com/publics/index/7)

1 Vaccination Guidelines

March 2020 revised edition
(A5 size, 132 pages)
A guidebook on medical and regulatory information about vaccination for medical staff in practice to conduct safe and appropriate vaccination.

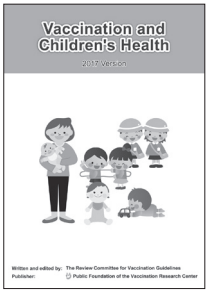
2 "Influenza and Pneumococcal Disease (Category B Disease) Vaccination Guidelines"

2019 edition (A5 size, 44 pages)
An overview of medical and regulatory information on influenza vaccination and routine vaccination of the elderly for pneumococcal disease.

3 Vaccination handbook

2019 edition (A4 size)
A handbook for doctors who give vaccination and municipal staff in charge of vaccination.

4 Editions in foreign languages "Vaccination and children's health"



March 2019 revised edition
"Vaccination and children's health," a brochure containing correct knowledge and information concerning vaccination for parents and the vaccination screening questionnaire, is translated in the following languages and available from the following site.
Please download them as required.
http://www.yoboseshu-rc.com/publics/index/8/
The entire brochure is available in the following 10 languages: English, Chinese, Korean, Vietnamese, Spanish, Portuguese, Thai, Indonesian, Tagalog, and Nepalese
The vaccination questionnaire alone is available in the following six languages: Arabic, Italian, German, French, Mongolian, and Russian

List of Members of the Review Committee for Vaccination Guidelines

	Name	Institution / Job title
	Takashi Inamatsu	Adviser of Infection Department and Research Laboratory Section, Tokyo Metropolitan Geriatric Hospital
	Tatsuo Oya	Former Director, Institute for Children and Persons with Severe Motor and Intellectual Disabilities (Salvia Center), Saiseikai Yokohama City Tobu Hospital
○	Kenji Okada	Professor, Fukuoka Nursing College
◎	Nobuhiko Okabe	Director of Kawasaki City Institute for Public Health
	Satoshi Kamayachi	Executive Board Member of the Japan Medical Association
	Keiko Taya	Head of Infectious Disease Surveillance Center Laboratory III, National Institute of Infectious Diseases
	Akira Nishino	Honorary Professor of Niigata University, Lawyer
	Mitsuaki Hosoya	Professor, Department of Pediatrics, Fukushima Medical University
	Masago Minami	Managing Director, Yomiuri Shimbun Tokyo Headquarters Chief Officer, Yomiuri Research Institute
	Toru Mori	Honorary Director of the Research Institute of Tuberculosis, Japan Anti-Tuberculosis Association
	Mitsuoki Yamamoto	Administrator of the Kokubunji Medical Association Vaccination Center, Director of Yamamoto Children's Clinic
	Shunichiro Yokota	Advisor, Odawara Medical Association Director of Yokota Children's Clinic
	Hiroshi Watanabe	Professor, Pediatrics Department, Teikyo University School of Medicine University Hospital, Mizonokuchi

◎ Chairperson ○ Vice-chairperson (In order of the Japanese syllabary, titles omitted)

Public Foundation of the Vaccination Research Center

14-1, Nihonbashi Odenmacho, Chuo-ku, Tokyo 103-0011, Japan

Phone: (03) 6206-2113 Fax: (03) 5643-8300

http://www.yoboseshu-rc.com/

(First edition: September 1994)
(Reorganized 1st edition, 1st impression: 1995)
(Reorganized 1st edition, 4th impression: 1998)
(Reorganized 1st edition, 5th impression: 2002)
(Revised edition: November 2003)
(Reorganized edition: 2005)
(Revised edition: March 2006)
(Revised edition: March 2007)
(Revised edition: March 2008)
(Revised edition: March 2009)
(Revised edition: March 2010)
(Revised edition: March 2011)
(Revised edition: March 2012)
(Revised edition: April 2013)
(Revised edition: April 2014)
(Revised edition: April 2015)
(Revised edition: April 2016)
(Revised edition: April 2017)
(Revised edition: March 2018)
(Revised edition: March 2019)
(Revised edition: March 2020)

MEMO

MEMO