



Information on children's vaccinations for guardians

What is vaccination?

Vaccination is an immunisation procedure designed to prevent a serious infectious disease. The vaccines are either made from weakened viruses or bacteria or they contain substances found in these pathogens. The vaccines themselves cause few symptoms, but they trigger an antibody response in the body that prevents or reduces the chances of the children getting sick from the disease they are vaccinated against. Vaccinations are named after the cowpox virus, *Variolae vaccinae*, that a British doctor, Edward Jenner, pointed out in 1796 as preventing smallpox. No infectious disease had hit the Icelandic people as hard as the smallpox, which had almost wiped out the nation in the past. Icelanders were among the first nations to start vaccination against smallpox with a decision made by the Danish Health Board in 1802. Jenner believed that smallpox could be eradicated from the world through vaccinations. However, it took nearly 200 years to achieve that goal, and vaccinations against this serious disease could be stopped in the 1970s.

What is vaccination for?

The aim of vaccinations is to prevent serious diseases, especially in children. Vaccinations also prevent epidemics and reduce the dangerous consequences of infectious diseases. In some cases, it is possible to eliminate diseases altogether. Many childhood diseases, such as measles, diphtheria, whooping cough and polio are now very rarely seen, as vaccination participation is good. However, infant mortality due to these diseases was common in the 19th and early 20th centuries. The experience of many European countries shows that these diseases can gain a foothold again if children's vaccinations are relaxed.

Further information on [diseases that are vaccinated against](#) in Iceland.

What are the benefits of vaccinations?

The usefulness of vaccination lies in the protection it provides to the child. The usefulness also lies in the fact that each vaccinated child does not infect susceptible children with the disease for which they are protected. Thus, vaccinations are unique procedures that have no parallel in the prevention of diseases. In order to achieve these results, vaccinations must be universal and reach as many children as possible. Icelanders did not pay enough attention to this at the beginning of the 19th century when they vaccinated against smallpox. Therefore, smallpox returned in 1839 for the last time, but the damage was less than before. The World Health Organization claims that no procedure is as beneficial to humans as vaccinations.

Can there be a reason not to vaccinate a child?

There are very few reasons not to vaccinate a child, but such reasons are listed for each vaccine below.

6-week examination

Vaccination against rotavirus diarrhea (dose 1 of 3)

The vaccine is called RotaTeq

- A live attenuated virus vaccine given orally
- Contains sucrose

The vaccine is administered independently of other oral administration

The vaccine can be administered to

- Premature babies
- Children with gastroesophageal reflux

Restrictions on the use of the vaccine

Age limits:

- The first dose must be given when the child is 6-11 weeks old
- The second dose must be given before the child turns 28 weeks old
- The third dose must be given before the child turns 32 weeks old

The vaccine must not be administered if the child

- Is acutely ill with vomiting and/or diarrhea
- Has a severe congenital immunodeficiency (screened for in newborn screening)
- Has had congenitalis or has a known congenital defect of the digestive system that increases the risk of congenitalis
- Has a congenital defect in the metabolism or absorption of sucrose/glucose/fructose

Side effects and safety

- Fever, vomiting and diarrhea occur in 10-20% of children following vaccination, generally at the first dose.
- Live virus can remain in the stool of a vaccinated child for approximately one week following vaccination, generally at the first dose. People with severe immunodeficiency need to be especially careful about hygiene when changing the diaper of a child who has recently received a rotavirus vaccination.
- Premature babies (born before 28 weeks' gestation) are at increased risk of severe illness from rotavirus disease and should be vaccinated against rotavirus but must be closely monitored for 2-3 days following vaccination due to the possibility of respiratory arrest.
- If you notice blood in the stool, persistent vomiting, abdominal pain or a high temperature following vaccination, the child must be examined with regards to congenitalis. Congenitalis is a serious but rare problem in infants, most cases are not related to rotavirus vaccination.

3-month examination

A) Vaccination against rotavirus diarrhea (dose 2 of 3)

The vaccine is called RotaTeq

- A live attenuated virus vaccine given orally
- Contains sucrose

The vaccine is administered independently of other oral administration

The vaccine can be administered to

- Premature babies
- Children with gastroesophageal reflux

Restrictions on the use of the vaccine

Age limits:

- The first dose must be given when the child is 6-11 weeks old
- The second dose must be given before the child turns 28 weeks old
- The third dose must be given before the child turns 32 weeks old

The vaccine must not be administered if the child

- Is acutely ill with vomiting and/or diarrhea
- Has a severe congenital immunodeficiency (screened for in newborn screening)
- Has had congenitalis or has a known congenital defect of the digestive system that increases the risk of congenitalis
- Has a congenital defect in the metabolism or absorption of sucrose/glucose/fructose

Side effects and safety

- Fever, vomiting and diarrhea occur in 10-20% of children following vaccination, generally at the first dose.
- Live virus can remain in the stool of a vaccinated child for approximately one week following vaccination, generally at the first dose. People with severe immunodeficiency need to be especially careful about hygiene when changing the diaper of a child who has recently received a rotavirus vaccination.
- Premature babies (born before 28 weeks' gestation) are at increased risk of severe illness from rotavirus disease and should be vaccinated against rotavirus but must be closely monitored for 2-3 days following vaccination due to the possibility of respiratory arrest.
- If you notice blood in the stool, persistent vomiting, abdominal pain or a high temperature following vaccination, the child must be examined with regards to congenitalis. Congenitalis is a serious but rare problem in infants, most cases are not related to rotavirus vaccination.

B) Vaccination against diphtheria, tetanus, whooping cough, polio and Haemophilus influenza B (dose 1 of 3)

The vaccine is called Pentavac, and is used for primary and booster vaccinations of infants and small children.

- Combined vaccine against 5 different diseases, both viral and bacterial.
- All components of the vaccine are inactivated (not live).
- Possible allergens: Contains the excipient aluminum hydroxide in trace amounts as well as antibiotic residues, see details in the leaflet.
- Contains phenylalanine.

Criteria and restrictions for the use of the vaccine

Age limits:

- recommended for children aged 6 weeks to 4 years and 11 months. Other vaccines are recommended for older children.

The vaccine must not be administered if the child

- Is seriously ill
- Has a severe allergy to the ingredients.

Children undergoing treatment for encephalopathy of unknown type should only be vaccinated in consultation with the attending physician.

Side effects and safety

- Fever and restlessness are common side effects, generally with the first dose. These symptoms go away in 24-48 hours for most people. It is recommended to use antipyretic painkillers (paracetamol) in doses suitable for the child's weight (see paracetamol packaging) as needed if symptoms occur. If a child has had a heat convulsion, suitable doses can be given for preventive purposes for 12-24 hours after vaccination.
- Discomfort at the injection site, redness and/or swelling at the injection site are common side effects, especially with the second dose. These symptoms go away in 48-96 hours. If discomfort seems to affect the child's nutritional intake, paracetamol can be given in doses suitable for the child's weight as needed while the symptoms resolve.
- Premature babies (born before 28 weeks' gestation) should be vaccinated, but they must be closely monitored for 2-3 days following vaccination due to the possibility of respiratory arrest.
- If seizures or other serious new symptoms are observed following vaccination, the child must be examined by a doctor.

C) Vaccination against pneumococcal bacteria (dose 1 of 3)

The vaccine is called [Vaxneuvance](#), and is used for primary and booster vaccinations of infants and small children.

- Combined vaccine against 15 enveloped pneumococcal/pneumonic bacteria, conjugated with diphtheria toxoid (adjuvant, enhances efficacy of the vaccination).
- All components of the vaccine are inactivated (not live).
- Possible allergens: Contains the excipient aluminum hydroxide, see details in the leaflet.

Criteria and restrictions for the use of the vaccine

Age limits

- recommended for children aged 6 weeks to 4 years and 11 months. Can be used for older children and adults with immunodeficiency or underlying diseases, with or instead of other vaccines against pneumococcal bacteria according to [special instructions](#) (Icelandic).

The vaccine must not be administered if the child

- Is seriously ill
- Has a severe allergy to the ingredients.

Side effects and safety

- Fever and restlessness are common side effects, generally with the first dose. These symptoms go away in 24-48 hours for most people. It is recommended to use antipyretic painkillers (paracetamol) in doses suitable for the child's weight (see paracetamol packaging) as needed if symptoms occur. If a child has had a heat convulsion, suitable doses can be given for preventive purposes for 12-24 hours after vaccination.
- Discomfort at the injection site, redness and/or swelling at the injection site are common side effects, especially with the second dose. These symptoms go away in 48-96 hours. If discomfort seems to affect the child's nutritional intake, paracetamol can be given in doses suitable for the child's weight as needed while the symptoms resolve.
- Premature babies (born before 28 weeks' gestation) should be vaccinated, but they must be closely monitored for 2-3 days following vaccination due to the possibility of respiratory arrest.

5-month examination

A) Vaccination against rotavirus diarrhea (dose 3 of 3)

The vaccine is called [RotaTeg](#)

- A live attenuated virus vaccine given orally
- Contains sucrose

The vaccine is administered independently of other oral administration

The vaccine can be administered to

- Premature babies
- Children with gastroesophageal reflux

Restrictions on the use of the vaccine

Age limits:

- The first dose must be given when the child is 6-11 weeks old
- The second dose must be given before the child turns 28 weeks old
- The third dose must be given before the child turns 32 weeks old

The vaccine must not be administered if the child

- Is acutely ill with vomiting and/or diarrhea
- Has a severe congenital immunodeficiency (screened for in newborn screening)
- Has had congenitalis or has a known congenital defect of the digestive system that increases the risk of congenitalis
- Has a congenital defect in the metabolism or absorption of sucrose/glucose/fructose

Side effects and safety

- Fever, vomiting and diarrhea occur in 10-20% of children following vaccination, generally at the first dose.
- Live virus can remain in the stool of a vaccinated child for approximately one week following vaccination, generally at the first dose. People with severe immunodeficiency need to be especially careful about hygiene when changing the diaper of a child who has recently received a rotavirus vaccination.
- Premature babies (born before 28 weeks' gestation) are at increased risk of severe illness from rotavirus disease and should be vaccinated against rotavirus but must be closely monitored for 2-3 days following vaccination due to the possibility of respiratory arrest.
- If you notice blood in the stool, persistent vomiting, abdominal pain or a high temperature following vaccination, the child must be examined with regards to congenitalis. Congenitalis is a serious but rare problem in infants, most cases are not related to rotavirus vaccination.

B) Vaccination against diphtheria, tetanus, whooping cough, polio and Haemophilus influenza B (dose 2 of 3)

The vaccine is called [Pentavac](#), and is used for primary and booster vaccinations of infants and small children.

- Combined vaccine against 5 different diseases, both viral and bacterial.
- All components of the vaccine are inactivated (not live).
- Possible allergens: Contains the excipient aluminum hydroxide in trace amounts as well as antibiotic residues, see details in the leaflet.
- Contains phenylalanine.

Criteria and restrictions for the use of the vaccine

Age limits:

- recommended for children aged 6 weeks to 4 years and 11 months. Other vaccines are recommended for older children.

The vaccine must not be administered if the child

- Is seriously ill
- Has a severe allergy to the ingredients.

Children undergoing treatment for encephalopathy of unknown type should only be vaccinated in consultation with the attending physician.

Side effects and safety

- Fever and restlessness are common side effects, generally with the first dose. These symptoms go away in 24-48 hours for most people. It is recommended to use antipyretic painkillers (paracetamol) in doses suitable for the child's weight (see paracetamol packaging) as needed if symptoms occur. If a child has had a heat convulsion, suitable doses can be given for preventive purposes for 12-24 hours after vaccination.
- Discomfort at the injection site, redness and/or swelling at the injection site are common side effects, especially with the second dose. These symptoms go away in 48-96 hours. If discomfort seems to affect the child's nutritional intake, paracetamol can be given in doses suitable for the child's weight as needed while the symptoms resolve.
- Premature babies (born before 28 weeks' gestation) should be vaccinated, but they must be closely monitored for 2-3 days following vaccination due to the possibility of respiratory arrest.
- If seizures or other serious new symptoms are observed following vaccination, the child must be examined by a doctor.

C) Vaccination against pneumococcal bacteria (dose 2 of 3)

The vaccine is called [Vaxneuvance](#), and is used for primary and booster vaccinations of infants and small children.

- Combined vaccine against 15 enveloped pneumococcal/pneumonic bacteria, conjugated with diphtheria toxoid (adjuvant, enhances efficacy of the vaccination).
- All components of the vaccine are inactivated (not live).
- Possible allergens: Contains the excipient aluminum hydroxide, see details in the leaflet.

Criteria and restrictions for the use of the vaccine

Age limits

- recommended for children aged 6 weeks to 4 years and 11 months. Can be used for older children and adults with immunodeficiency or underlying diseases, with or instead of other vaccines against pneumococcal bacteria [according to special instructions](#) (Icelandic).

The vaccine must not be administered if the child

- Is seriously ill
- Has a severe allergy to the ingredients.

Side effects and safety

- Fever and restlessness are common side effects, generally with the first dose. These symptoms go away in 24-48 hours for most people. It is recommended to use antipyretic painkillers (paracetamol) in doses suitable for the child's weight (see paracetamol packaging) as needed if symptoms occur. If a child has had a heat convulsion, suitable doses can be given for preventive purposes for 12-24 hours after vaccination.
- Discomfort at the injection site, redness and/or swelling at the injection site are common side effects, especially with the second dose. These symptoms go away in 48-96 hours. If discomfort seems to affect the child's nutritional intake, paracetamol can be given in doses suitable for the child's weight as needed while the symptoms resolve.
- Premature babies (born before 28 weeks' gestation) should be vaccinated, but they must be closely monitored for 2-3 days following vaccination due to the possibility of respiratory arrest.

12-month examination

A) Vaccination against meningococci of envelope types A, C, W and Y (dose 1 of 1)

The vaccine is called [MenQuadfi](#).

- Combined vaccine against 4 envelope types of meningococci, conjugated with tetanus toxoid (adjuvant).
- All components of the vaccine are inactivated (not live). Protection is different depending on the envelope types, here the main focus is on envelope type C and one dose is then sufficient, unless there is an epidemic. If there is a reason to protect against envelope types A, W or Y for a longer period, a booster dose may be required.
- Possible allergens: N/A.

Criteria and restrictions for the use of the vaccine

Age limits

- recommended for children aged 12 weeks to 4 years and 11 months, according to the programme in Iceland. May be used for older children and adults if vaccination against meningococci A, C, W and/or Y is required. Other vaccines are recommended for younger children if needed, in which case more doses may be required.

The vaccine must not be administered if the child

- Is seriously ill
- A doctor should be consulted before vaccination if the child has had serious side effects after previous doses of this vaccine or tetanus vaccine.

Side effects and safety

- Fever and restlessness are common side effects. These symptoms go away in 24-48 hours for most people. It is recommended to use antipyretic painkillers (paracetamol) in doses suitable for the child's weight (see paracetamol packaging) as needed if symptoms occur. If a child has had a heat convulsion, suitable doses can be given for preventive purposes for 12-24 hours after vaccination.
- Discomfort at the injection site, redness and/or swelling at the injection site are common side effects. These symptoms go away in 48-96 hours. If discomfort seems to affect the child's nutritional intake, paracetamol can be given in doses suitable for the child's weight as needed while the symptoms resolve.

B) Vaccination against diphtheria, tetanus, whooping cough, polio and Haemophilus influenza B (dose 3 of 3)

The vaccine is called [Pentavac](#), and is used for primary and booster vaccinations of infants and small children.

- Combined vaccine against 5 different diseases, both viral and bacterial.
- All components of the vaccine are inactivated (not live).
- Possible allergens: Contains the excipient aluminum hydroxide in trace amounts as well as antibiotic residues, see details in the leaflet.
- Contains phenylalanine.

Criteria and restrictions for the use of the vaccine

Age limits:

- recommended for children aged 6 weeks to 4 years and 11 months. Other vaccines are recommended for older children.

The vaccine must not be administered if the child

- Is seriously ill
- Has a severe allergy to the ingredients.

Children undergoing treatment for encephalopathy of unknown type should only be vaccinated in consultation with the attending physician.

Side effects and safety

- Fever and restlessness are common side effects, generally with the first dose. These symptoms go away in 24-48 hours for most people. It is recommended to use antipyretic painkillers (paracetamol) in doses suitable for the child's weight (see paracetamol packaging) as needed if symptoms occur. If a child has had a heat convulsion, suitable doses can be given for preventive purposes for 12-24 hours after vaccination.
- Discomfort at the injection site, redness and/or swelling at the injection site are common side effects, especially with the second dose. These symptoms go away in 48-96 hours. If discomfort seems to affect the child's nutritional intake, paracetamol can be given in doses suitable for the child's weight as needed while the symptoms resolve.
- Premature babies (born before 28 weeks' gestation) should be vaccinated, but they must be closely monitored for 2-3 days following vaccination due to the possibility of respiratory arrest.
- If seizures or other serious new symptoms are observed following vaccination, the child must be examined by a doctor.

C) Vaccination against pneumococcal bacteria (dose 3 of 3)

The vaccine is called [Vaxneuvance](#), and is used for primary and booster vaccinations of infants and small children.

- Combined vaccine against 15 enveloped pneumococcal/pneumonic bacteria, conjugated with diphtheria toxoid (adjuvant, enhances efficacy of the vaccination).
- All components of the vaccine are inactivated (not live).
- Possible allergens: Contains the excipient aluminum hydroxide, see details in the leaflet.

Criteria and restrictions for the use of the vaccine

Age limits

- recommended for children aged 6 weeks to 4 years and 11 months. Can be used for older children and adults with immunodeficiency or underlying diseases, with or instead of other vaccines against pneumococcal bacteria [according to special instructions](#) (Icelandic)

The vaccine must not be administered if the child

- Is seriously ill
- Has a severe allergy to the ingredients.

Side effects and safety

- Fever and restlessness are common side effects, generally with the first dose. These symptoms go away in 24-48 hours for most people. It is recommended to use antipyretic painkillers (paracetamol) in doses suitable for the child's weight (see paracetamol packaging) as needed if symptoms occur. If a child has had a heat convulsion, suitable doses can be given for preventive purposes for 12-24 hours after vaccination.
- Discomfort at the injection site, redness and/or swelling at the injection site are common side effects, especially with the second dose. These symptoms go away in 48-96 hours. If discomfort seems to affect the child's nutritional intake, paracetamol can be given in doses suitable for the child's weight as needed while the symptoms resolve.
- Premature babies (born before 28 weeks' gestation) should be vaccinated, but they must be closely monitored for 2-3 days following vaccination due to the possibility of respiratory arrest.

18-month examination

Vaccination against measles, mumps, rubella and chicken pox (MMRV; dose 1 of 2*)

The vaccine is called [ProQuad](#).

- A live attenuated virus vaccine
- Possible causes of intolerance and allergens: Contains sucrose and sorbitol. Contains gelatin and antibiotic residues, see details in the leaflet.

Restrictions on the use of the vaccine

Age limits:

- can be given from the age of 9 months. This vaccine is not recommended for use in Iceland for people over the age of 40 or under the age of 12 months, except in special circumstances, in which case the reason for the vaccination should be explained in the medical record.

The vaccine can be given to children with an egg allergy unless an allergist has specifically recommended against the vaccination in the medical record. No component of the vaccine is produced in eggs but in cell culture of chicken origin.

The vaccine must not be administered if the child

- Is seriously ill
- Has a severe congenital or acquired immunodeficiency, e.g. due to medication (see details in the leaflet)
- Has received intravenous immunisation with general antibodies from human serum within 6 months, unless the doctor responsible for administering the antibody recommends the vaccination earlier. In rare cases, vaccination must be postponed for up to 9 months after antibody administration.
- Uses salicylates such as aspirin regularly or has been given aspirin or sulfasalazine within 6 weeks before vaccination
- Has an anaphylactic reaction to gelatin or other ingredients, see leaflet for further information.

The vaccine must not be administered during pregnancy. Vaccination of breastfeeding individuals is not recommended.

MMR vaccine (see 12-year examination) and single-component varicella vaccine (see 2.5-year examination) are recommended over MMRV for children with a history of severe heat convulsions.

Children who get chickenpox after 10 months of age do not need the MMRV vaccine but receive the MMR.

Side effects and safety

- Fever may occur after the vaccination, usually 5-12 days after the first dose. These symptoms go away in 24-48 hours for most people. It is recommended to use antipyretic painkillers (paracetamol or ibuprofen) in doses suitable for the child's weight (see packaging) as needed if symptoms occur.

- Timing of preventive administration of antipyretics after living vaccines is difficult. If a child has had severe heat convulsions, it is recommended to give MMR and chicken pox in separate injections but can be on the same day.
- A small proportion of children who develop a fever after the first dose of measles vaccine develop a widespread rash that starts on the head. The rash is harmless, and children who get it can complete the vaccination against measles, mumps, rubella and chicken pox.
- Adolescents and adults who receive their first rubella vaccination after puberty may experience joint pain approximately 21 days after vaccination, due to the rubella component of the vaccine. The symptoms go away in most people and usually do not come back if another dose is given later.
- Discomfort at the injection site, redness and/or swelling at the injection site are common side effects, especially with the second dose. These symptoms pass in 48-96 hours after the vaccination. If discomfort seems to affect the child's nutritional intake, paracetamol or ibuprofen can be given in doses suitable for the child's weight as needed while the symptoms resolve.

After administration of the vaccine, skin tests for tuberculosis and vaccination with other live vaccines must be postponed and the use of salicylate drugs, e.g. aspirin, must be avoided for 6 weeks.

* Second doses separate: chicken pox at 2.5 years of age; measles, mumps and rubella (MMR) at the age of 12 according to plan

2.5-year examination

Vaccination against chicken pox (dose 2 of 2)

The vaccine is called [Varilrix](#).

- A live attenuated virus vaccine
- Possible causes of intolerance and allergens: Contains phenylalanine and sorbitol, see details in the leaflet.

Restrictions on the use of the vaccine

Age limits:

- can be given from the age of 9 months. This vaccine is not recommended for use in Iceland for people over the age of 40 or under the age of 10 months, except in special circumstances, in which case the reason for the vaccination should be explained in the medical record.

The vaccine must not be administered if the child

- Is seriously ill
- Has a severe congenital or acquired immunodeficiency, e.g. due to medication (see details in the leaflet)
- Has received intravenous immunisation with general antibodies from human serum within 3 months, unless the doctor responsible for administering the antibody recommends the vaccination earlier. In rare cases, vaccination must be postponed for up to 9 months after antibody administration.
- Uses salicylates such as aspirin regularly or has been given aspirin or sulfasalazine within 6 weeks before vaccination

The vaccine must not be administered during pregnancy. Vaccination of breastfeeding individuals is not recommended.

Children who get chickenpox after 10 months of age do not need vaccination against chicken pox.

Side effects and safety

- Fever may occur after the vaccination, usually 8-21 days after the first dose of chicken pox vaccine. These symptoms go away in 24-48 hours for most people. It is recommended to use antipyretic painkillers (paracetamol or ibuprofen) in doses suitable for the child's weight (see packaging) as needed if symptoms occur. Fever is less likely with the second dose.
- Discomfort at the injection site, redness and/or swelling at the injection site are common side effects, especially with the second dose. These symptoms pass in 48-96 hours after the vaccination. If discomfort seems to affect the child's nutritional intake, paracetamol or ibuprofen can be given in doses suitable for the child's weight as needed while the symptoms resolve.

After the administration of the vaccine, the use of salicylate drugs must be avoided, e.g. aspirin, and defer tuberculosis skin testing and vaccination with other live vaccines for 6 weeks.

4-year examination

Vaccination against diphtheria, tetanus and whooping cough (booster dose 1 of 2 for children)

The vaccine is called [Boostrix](#) and is used for booster vaccination of children and adults.

- Combined vaccine against 3 different bacterial diseases.
- All components of the vaccine are inactivated (not live).
- Possible allergens: Contains the excipient aluminum hydroxide in trace amounts as well as antibiotic residues, see details in the leaflet. May contain trace amounts of formaldehyde.

Criteria and restrictions for the use of the vaccine

Age limits:

- recommended for children from 4 years of age and adults for booster vaccination. May be used during pregnancy.

The vaccine must not be administered if the child

- Is seriously ill.
- Has a severe allergy to any of the ingredients or has had serious side effects after previous doses of this vaccine.

Children undergoing treatment for encephalopathy of unknown type should only be vaccinated in consultation with the attending physician.

Side effects and safety

- Fever and irritation are common side effects. These symptoms go away in 24-48 hours for most people. It is recommended to use antipyretic painkillers (paracetamol) in doses suitable for the child's weight (see paracetamol packaging) as needed if symptoms occur. If a child has had a heat convulsion, suitable doses can be given for preventive purposes for 12-24 hours after vaccination.
- Discomfort at the injection site, redness and/or swelling at the injection site are very common side effects, especially if less than two years have passed since the last dose of primary vaccination. These symptoms go away in 48-96 hours. If the discomfort seems to have a disturbing effect on the child's daily activities, paracetamol can be given in doses suitable for the child's weight as needed while the symptoms resolve.
- If seizures or other serious new symptoms are observed following vaccination, the child must be examined by a doctor.

12-year examination (in primary school)

A) Vaccination against measles, mumps and rubella (MMR; dose 2 of 2*)

The vaccine is called [M-M-RvaxPro](#).

- A live attenuated virus vaccine
- Possible causes of intolerance and allergens: Contains sucrose and sorbitol. Contains gelatin and antibiotic residues, see details in the leaflet.

Restrictions on the use of the vaccine

Age limits:

- can be given from the age of 9 months. This vaccine is not recommended for use in Iceland for people over the age of 40 or under the age of 12 months, except in special circumstances, in which case the reason for the vaccination should be explained in the medical record.

The vaccine can be given to children with an egg allergy unless an allergist has specifically recommended against the vaccination in the medical record. No component of the vaccine is produced in eggs but in cell culture of chicken origin.

The vaccine must not be administered if the child

- Is seriously ill
- Has a severe congenital or acquired immunodeficiency, e.g. due to medication (see details in the leaflet)
- Has received intravenous immunisation with general antibodies from human serum within 6 months, unless the doctor responsible for administering the antibody recommends the vaccination earlier. In rare cases, vaccination must be postponed for up to 9 months after antibody administration.
- Uses salicylates such as aspirin regularly or has been given aspirin or sulfasalazine within 6 weeks before vaccination
- Has an anaphylactic reaction to gelatin or other ingredients, see leaflet for further information.

The vaccine must not be administered during pregnancy. Vaccination of breastfeeding individuals is not recommended.

Side effects and safety

- Fever may occur after the vaccination, usually 5-12 days after the first dose. These symptoms go away in 24-48 hours for most people. It is recommended to use antipyretic painkillers (paracetamol or ibuprofen) in doses suitable for the child's weight (see packaging) as needed if symptoms occur.
- A small proportion of children who develop a fever after the first dose of measles vaccine develop a widespread rash that starts on the head. The rash is harmless, and children who get it can complete the vaccination against measles, mumps, rubella and chicken pox.
- Adolescents and adults who receive their first rubella vaccination after puberty may experience joint pain approximately 21 days after vaccination, due to the rubella component of the vaccine. The symptoms go away in most people and usually do not come back if another dose is given later.

- Discomfort at the injection site, redness and/or swelling at the injection site are common side effects, especially with the second dose. These symptoms pass in 48-96 hours after the vaccination. If discomfort seems to affect the child's nutritional intake, paracetamol or ibuprofen can be given in doses suitable for the child's weight as needed while the symptoms resolve.

After administration of the vaccine, skin tests for tuberculosis and vaccination with other live vaccines must be postponed and the use of salicylate drugs, e.g. aspirin, must be avoided for 6 weeks.

B) Vaccination against human papillomavirus (HPV; two doses with approximately 6 months between injections)

The vaccine is called [Gardasil-9](#).

- Inactivated virus vaccine (virus-like particles with proteins that characterise the nine types of HPV virus)
- Possible causes of intolerance and allergens: Produced in yeast (*Saccharomyces cerevisiae*). Contains aluminum hydroxide, borax and polysorbate 80, see details in the leaflet.

Restrictions on the use of the vaccine

Age limits:

- may be administered from the age of 9. This vaccine is not recommended for use in Iceland for people over the age of 45 or under the age of 9 years, except in special circumstances, in which case the reason for the vaccination should be explained in the medical record. It is uncertain how long protection lasts if vaccination begins before age 9.

The vaccine must not be administered if the child

- Is seriously ill
- Has an anaphylactic reaction to yeast or other ingredients, see leaflet for further information.

The vaccine should not be used during pregnancy, but no birth defects or other problems have occurred if the vaccine has been given during pregnancy. The vaccine can be given to a person who is breastfeeding.

Side effects and safety

- Headache is the most common side effect after HPV vaccination.
- Fainting, nausea, fever and fatigue are rather common side effects after vaccination against HPV in adolescents.
- Discomfort at the injection site, redness and/or swelling at the injection site are common side effects, especially with the second dose. These symptoms pass within a week after the vaccination. If the discomfort has a disturbing effect on the child's daily activities, paracetamol or ibuprofen can be given in doses suitable for the child's weight as needed while the symptoms resolve.

14-year examination (in primary school)

Vaccination against diphtheria, tetanus, whooping cough and polio (booster dose 2 of 2 in children)

The vaccine is called [Repevax](#), and is used for booster vaccination of children and adults.

- Combined vaccine against 4 different diseases (bacterial and viral diseases).
- All components of the vaccine are inactivated (not live).
- Possible allergens: Contains the excipient aluminum hydroxide as well as antibiotic residues in trace amounts, see details in the leaflet. May contain trace amounts of formaldehyde and glutaraldehyde.

Criteria and restrictions for the use of the vaccine

Age limits:

- recommended for children from 4 years of age and adults for booster vaccination. May be used during pregnancy.

The vaccine must not be administered if the child

- Is seriously ill.
- Has a severe allergy to any of the ingredients or has had serious side effects after previous doses of this vaccine.

Children undergoing treatment for encephalopathy of unknown type should only be vaccinated in consultation with the attending physician.

Side effects and safety

- Fever and irritation are common side effects. These symptoms go away in 24-48 hours for most people. It is recommended to use antipyretic painkillers (paracetamol) in doses suitable for the child's weight (see paracetamol packaging) as needed if symptoms occur. If a child has had a heat convulsion, suitable doses can be given for preventive purposes for 12-24 hours after vaccination.
- Discomfort at the injection site, redness and/or swelling at the injection site are very common side effects, especially if less than two years have passed since the last dose. Widespread swelling of the limb, even involving the joints near and far from the injection site, may occur, especially in children who have received multiple previous doses of tetanus and diphtheria vaccines. These symptoms go away in 48-96 hours. If the discomfort seems to have a disturbing effect on the child's daily activities, paracetamol can be given in doses suitable for the child's weight as needed while the symptoms resolve.
- If seizures or other serious new symptoms are observed following vaccination, the child must be examined by a doctor.