Englisch

Protective Vaccination

A Multilingual Guide

MiMi Das Gesundheitsprojekt Mit Migranten für Migranten

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Ethno-Medizinisches Zentrum e.V.

Impressum

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Bundesministerium für Gesundheit

Minister's Message

Dear reader,

quality health services for migrants are a core concern for the health and integration policy of the federal German government. Concrete and measurable objectives contributing to improvements in this action area are laid down in the federal government's National Integration Action Plan. Currently, health services for migrants are considered to be not yet adequate in some areas. Barriers to access to the health system as well as lack of information and education are mentioned most frequently as the main reasons. However, much progress has already been made in both these areas.

This multilingual guide to immunisation will be an important building block for health services for migrants in Germany. The protection of public health is integral to the statutory obligations of the state. The immunisation of the population is a fundamental part of this task. Consequently, vaccinations are a component of the list of medical services covered by statutory health insurance. To this effect, state health authorities develop a catalogue of publicly recommended vaccinations for their respective state (Bundesland), based on the recommendations issued annually by the Standing Committee on Immunisation of the Robert Koch Institute.

The population-wide immunisation rate is an important indicator of health service coverage. Increasing the immunisation rate among the population with a migration background, particularly children and adolescents, is therefore an important goal in the National Integration Action Plan. Immunisation acceptance is generally high. However, information and education that actually reach the target group are often still lacking.

Since 1989, the Ethno-Medical Centre Inc. has dedicated itself to and been successful in the culturally sensitive and migration-specific communication of health policy topics. Health mediators from the Germany-wide *With Migrants for Migrants* project have successfully trialled their own project on immunisation. With its Immunisation Guide available in 16 languages, the Ethno-Medical Centre provides an additional, important building block for health services for migrants. I hope the vaccination guide will become widely known and used.

Hermann Gröhe
Federal Minister for Health

Introduction

Dear readers,

Migration is lived mobility. The globalized society of today is a manifestation of the increased possibilities for mobility. With the rapid increase in international travel, more and more people from different regions of the world come into contact with each other. The downside of this exchange is that diseases are also transmitted over great distances and can spread more rapidly than previously. Against the background of government concern over public health, vaccination plays a key role. As a precautionary health measure it protects not only every individual citizen, it also prevents the spread of particular diseases through nationwide immunization of the population.

In this connection, gaps in vaccination among migrants living in Germany have been observed. Children, for example, who were born in their countries of origin and have come to Germany in their early years, are often only partially vaccinated when they start school. One of the main reasons for this deficiency is the often encountered inadequate knowledge of the German language, not only among those who have lived in Germany for many years, but also among those just recently arrived. This makes it difficult for them to take advantage of benefits of the German health system.

As you will quickly realize, vaccination is not just something for children. Vaccination is available for every age group. Bearing in mind that the effectiveness and safety of vaccination is occasionally the subject of contentious debate, with unsettling and misleading information being circulated, the necessity of a concise and balanced account is even more urgent.

With this Guide we hope to largely close the gaps in the provision of multilingual information on the topic of immunization, and at the same time to help ensure that participation of migrants in vaccination programmes reaches the level of the general population.

Ramazan Salman
Managing Director, Ethno-Medical Centre (EMZ) / Overall Project Manager, MiMi Health Project

Contents

* Certain terms are printed **blue** in the text that follows. These terms are briefly explained in the chapter "The most important technical terms" from page 25 onwards.

Cause of infectious diseases and transmission routes

What triggers infectious diseases?
Many infectious diseases have been known for hundreds of years. Yet precise knowledge of their causes is still quite recent. For a long time, people had only very vague or false perceptions of these diseases, which are partially reflected even today in the names of diseases. Malaria, for example, comes from the Italian and literally means "bad air".

Most infectious diseases are triggered by viruses and bacteria.

Bacteria

Bacteria are understood to be unicellular (single-cell) organisms (see Figure 1) that are so small that they cannot be seen with the naked eye. Of the tens of thousands of species of bacteria that have up to now been identified, only a few trigger infectious diseases in human beings. Our skin, mouth and large intestine are constantly colonized by several hundred species of bacteria. Many of these bacteria perform important tasks and protect, for example, against fungal disease.

Figure 1: Computer representation of the whooping cough bacterium *Bordetella pertussis*

Viruses

Viruses are much smaller than bacteria. Around 8 trillion flu viruses (Figure 2) could fit on a pinhead. Viruses can penetrate human cells and compel them to reproduce the particular virus. In this process, the infected cells are destroyed.

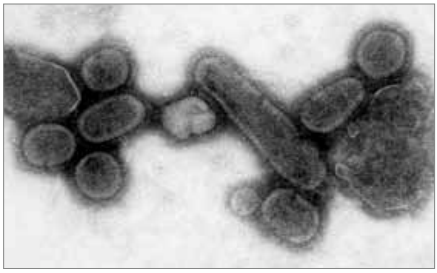


Figure 2: Electron microscope image of flu viruses

What is an infection?

An infection or contagion is understood to be the colonization and reproduction of germs (for example, bacteria and viruses) in the human body. Infection with a germ is not an illness, however. Only when an infection immediately – or after a certain delay – leads to symptoms such as a high temperature, general malaise or a skin rash, has the infection developed into an infectious disease.

Infected persons can infect other people without being ill or even aware of their own infection. This is why many infectious diseases are spread very rapidly.

How are germs transmitted?

For infection, the transmission route is of great importance. Only when a sufficiently large number of undamaged germs enter the body, can an infectious disease develop. Different transmission routes are possible, depending on the germ and the illness.

Droplet infection

When sneezing, coughing and breathing, we release droplets of fluid, which can contain germs. Depending on their size, these droplets can remain in the air for varied periods of time, and can be inhaled by other people (Figure 3).

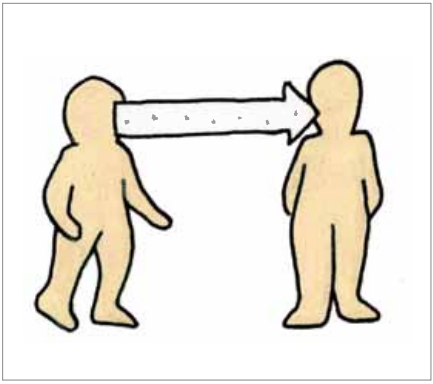


Figure 3: Droplet infection

Faecal-oral transmission

Some germs are excreted with stools and thus enter the environment. In countries with low standards of hygiene, germs are often found in drinking water. People who drink this water or eat uncooked food or unpeeled fruit can become infected.

Smear infection

Indirect transmission is even more frequent, particularly via the hands or objects that come into contact with excrements (Figure 4). Many diarrhoea germs are extremely resistant and infectious even in small quantities.

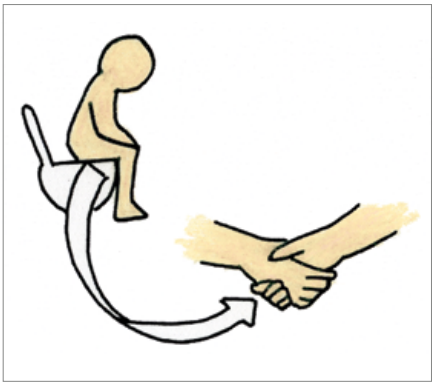


Figure 4: Smear infection – Faecal-oral transmission

Contact infection

Certain germs are transmitted by bodily contact, such as kissing and sex (Figure 5). Indirect transmission via towels or toilet seats is rare.

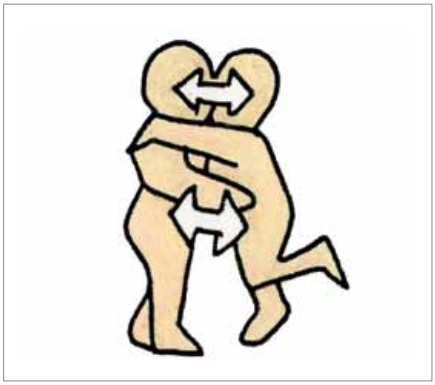


Figure 5: Contact infection

Transmission via insects and other creatures

Certain diseases are only rarely or not at all transmitted directly from person to person, but require carriers. In most cases they are insects. In the case of yellow fever, for instance, the yellow-fever mosquito is initially infected from the blood of an infected animal. If the mosquito then later bites people, they can also be infected with yellow fever.

Blood and other body fluids

Certain germs spread via blood (Figure 6) and other body fluids such as saliva, tears, sperm and vaginal fluid. Close physical contact plays an important role in contact infection. Transmissions via blood transfusion are extremely rare in Germany, since donated and preserved blood is strictly controlled. Transmission during pregnancy is more frequent, since the blood circulation of mother and child is closely connected.

Figure 6: Transmission via the bloodstream – here during pregnancy

Wound infection

In case of injuries, germs frequently enter wounds (Figure 7). The size of the wound does not necessarily play the decisive role. Someone who is pricked by the thorn of a rose can fall ill with tetanus, even though the wound is tiny.

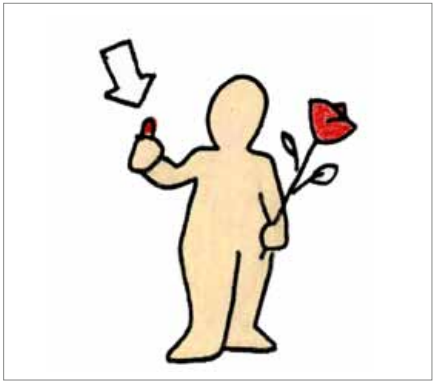


Figure 7: Wound infection

Basic principles of vaccination and vaccines

What is vaccination and how does it work?
Vaccinations make people immune to particularly dangerous germs – especially bacteria and viruses. They can protect against diseases and therefore against severe complications, such as physical or mental disabilities, and sometimes even against death.

When very many people are vaccinated against particular infectious diseases, these can then no longer spread among the population. Due to the preventive character of vaccinations, we use the term active immunization. At the present time, vaccination is available in Germany for protection against around 25 infectious diseases.

The principle of vaccination is quite simple: Weakened or dead germs, or their components, are administered to people by vaccination. The body's immune system reacts against them, as is the case with "normal" germs, by producing for defence purposes antibodies and defence cells as well as corresponding memory cells.
In the case of contact with real germs, these antibodies provide immediate protection. Memory cells ensure long-term protection against the germ.

Vaccinations are highly effective. However, no vaccination can provide all vaccinated persons with 100 per cent protection against the respective disease.

How are vaccines administered?
Vaccines can be administered in a number of ways. Most vaccines are administered through injection either into the muscle, the subcutaneous fatty tissue or the skin. A small number of vaccines are administered in the form of oral vaccination.

Vaccination recommendations and payment of costs

Who decides when vaccination should be carried out, and against what?
In Germany, there is no obligation to be vaccinated. Whether one decides, after a doctor has provided advice, on a particular vaccination for oneself or one's child, remains the free decision of every individual.

The question of which vaccinations are sensible, and for whom and when, is the concern of the Standing Committee on Vaccination (in short: STIKO) at the Robert Koch Institute (RKI). The members of STIKO are doctors and other experts who are appointed by the Federal Ministry of Health. Membership in STIKO is a personally-held honorary office. The members are obliged to fulfil their duties in an impartial manner.

STIKO prepares annually updated vaccination recommendations, including the vaccination calendar (Figure 8), which lays down the standard vaccinations that are advisable at a particular age. At the same time, occupation-related, so-called indicated vaccinations and travel vaccinations are described and recommended.

These can be found, together with an explanation, on the Website of the Robert Koch Institute (http://www.rki.de).
STIKO recommendations form the basis for the Guideline on Active Immunization *(Schutzimpfungsrichtlinie)* of the Joint Federal Committee *(Gemeinsamer Bundesausschuss – G-BA)* of doctors, dentists, psychotherapists, hospitals and statutory health insurance funds in Germany.

The Guideline on Active Immunization lays down standard vaccinations that are binding for all statutory health insurance funds. These are then available free of charge to insured persons. The costs of travel vaccinations (with the exception of vaccination against poliomyelitis) and occupation-related indicated vaccinations (which are the responsibility of employers) do not have to be paid by insurance funds. The Guideline on Active Immunization also lays down that missed or neglected standard vaccinations must be paid for by insurance funds when carried out at a later date, but only up to the day before an insured person's 18th birthday.

The STIKO Vaccination Calendar 2015

What is the vaccination calendar?
The STIKO vaccination calendar lists all standard vaccinations that are recommended for a particular age. Vaccinations should be carried out at the earliest possible time.

The STIKO 2015 Vaccination Calendar
(see Figure 8 on page 13)

The recommended ages for vaccinations are given in weeks, months or years. For example: 'vaccination between 9 and 14 years of age': i.e. from the 9th birthday to the day before the 15th birthday.

Explanations	
G	Initial vaccination
A	Booster vaccination
S	Standard vaccination
N	Catch-up vaccination
a	Premature infants receive an additional dose at the age of three months, i. e. four doses in total
b	The initial vaccination should be administered at as young as six weeks of age. Depending on the vaccine, 2 or 3 doses are necessary at intervals of at least 4 weeks each.
c	This dose can be omitted where a monovalent vaccine is used.
d	Standard vaccination for girls aged 9 to 13 or 9 to 14 years respectively (depending on the vaccine used), with two doses given 6 months apart. For catch-up vaccinations in over 13 or 14 year-olds respectively, or a where the interval between the first and second dose exceeded 6 months, a third dose is required.
e	Booster vaccination 10 years after each previous dose. The next Td (= tetanus and diphtheria) vaccination is due as a one-off Tdap (= tetanus, diphtheria and pertussis) dose or, if indicated, as a Tdap-IPV (Tdap plus poliomyelitis) combination vaccine.
f	Single vaccination using MMR (= measles/mumps/rubella) vaccine for all those born after 1970 who are at least 18 years old and are either of uncertain vaccination status, not vaccinated or vaccinated only once.

(Figure 8: Alterations are done according to the STIKO vaccination calendar 2015.)

Vaccination	Age in weeks	Age in months				Age in years						
	6	2	3	4	11–14	15–23	2–4	5–6	9–14	15–17	18 and over	60 and over
Tetanus		G 1	G 2	G 3	G 4	N	N	A 1	A 2		A (where applicable N) [e]	
Diphtheria		G 1	G 2	G 3	G 4	N	N	A 1	A 2		A (where applicable N) [e]	
Whooping cough		G 1	G 2	G 3	G 4	N	N	A 1	A 2		A (where applicable N) [e]	
H. Influenzae Type b (Hib)		G 1	G 2 [c]	G 3	G 4	N	N					
Poliymyelitis		G 1	G 2 [c]	G 3	G 4	N	N		A 1		where applicable N	
Hepatitis B		G 1	G 2 [c]	G 3	G 4	N	N					
Pneumococcal disease [a]		G 1		G 2	G 3	N						S
Rotavirus	G 1 [b]	G 2	(G 3)									
Meningococcal disease					G 1 (from 12 months		N					
Measles/Mumps/ German measles					G 1	G 2	N				S [f]	
Chickenpox					G 1	G 2	N					
Influenza												S (Annual vaccination)
Human papilloma-virus (HPV)									G 1 [d]	G 2 [d]	N [d]	

On the risks and side-effects of vaccination

Who authorizes and controls vaccines?
Those who want to obtain information on the topic of vaccination soon realize that a lot of contradictory and often false information is in circulation. The trustworthiness of sources can hardly be judged by non-specialists. Statements on the safety of vaccines sometimes lead to great uncertainty and to rejection of vaccinations.
The fact is that a vaccination is only authorized in Germany when it is proven that it is safe and effective. This proof has to be provided by manufacturers in studies on effectiveness and safety, involving, in most cases, thousands of participants.

National and international authorities are responsible for control. In Germany, the state-run Paul-Ehrlich-Institut (PEI) is the supreme federal authority for authorization and control of vaccines.

Many, if not all side effects are discovered in safety studies before authorization. Furthermore, each and every batch of vaccine must be authorized by the state authority. For no other drug group are safety requirements as high as in the case of vaccines.

Which side-effects can vaccines cause?
As already explained, with vaccination the immune system is stimulated by weakened or dead germs or their components. The processes are imitated that also occur in the case of contact with the real germ. Following vaccination, a completely normal and desired inflammatory reaction occurs.
This now and again involves mostly harmless discomfort for the person vaccinated.

Slight reddening and swelling occurs relatively often in the area of the injection site. Further side effects can be swelling of the lymph nodes, a high temperature, headaches, nausea as well as fatigue and sleepiness.

With live vaccines, such as the measles vaccine, in around 5 per cent of cases a so-called vaccine side effect can occur. This involves a weakened and harmless imitation of the disease against which protection is intended.

Normally, side effects are light and disappear automatically in one to three days. Only in rare cases is the side effect worse than this, and it is then termed a vaccine complication.

Vaccine complications have to be reported to the authorities. The doctor administering vaccination must report vaccine complications to the responsible health authority.

Since the 02/10/2013, patients can and should report a suspected drug side effect to their physician, pharmacist or Medicines and Healthcare products Regulatory Agency. A corresponding web page was established under the address https://verbraucher-uaw.pei.de to report drug and vaccination side effects.

In very rare cases, incompatibility reactions occur. Before vaccination, you should clarify with your doctor whether allergies against the vaccine components are known. The doctor should also discuss with you the advantages and possible risks, as well as tell you about his experiences with the planned vaccination. Use this service in order to resolve existing questions and uncertainties.

What happens in the case of vaccination damage?

The term vaccination damage is very often falsely equated in public discussion with a side effect. With the already mentioned temporary side effects, however, vaccination damage is not involved.

Vaccination damage exists when, as a result of vaccination, lasting health impairment or economic damage occurs and the vaccination may be responsible for it.

In the case of an officially recommended vaccination the affected person is entitled to state benefits. Vaccination damage is extremely rare. The probability lies below one in a million vaccinations. The danger is

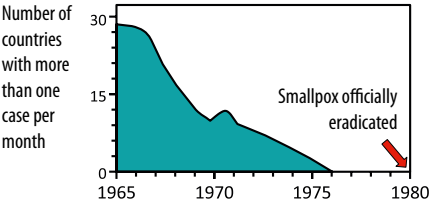
therefore roughly the same as being struck by lightning.

The social importance of vaccination

Average life expectancy in Germany has risen by more than 40 years in the past 100 years, and has therefore more than doubled. This was brought about largely by three factors: clean drinking water, improved hygiene and vaccinations. Improved medical care played, by contrast, merely a minor role.

The positive effects of systematic vaccination are well documented. In Figure 9, the effectiveness of vaccination is shown based on the examples of smallpox and poliomyelitis.

Smallpox



Poliomyelitis

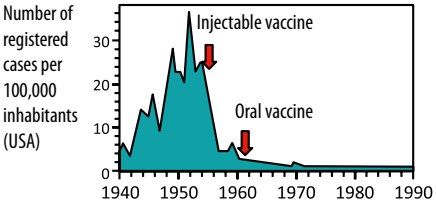


Figure 9: The effects of vaccination. The dramatic effect of vaccination is exemplified in the number of cases of smallpox and poliomyelitis. Smallpox vaccination has been the most successful up to now, thanks to which smallpox was declared to be eradicated worldwide by the World Health Organization (WHO) in 1980.

Practical questions concerning vaccination

Vaccinations often give rise to questions. At this point, we would like to briefly review some important issues. Notwithstanding that, we recommend that you contact your doctor with questions concerning individual vaccinations, their necessity and possible risks.
Your doctor is obliged to advise you and provide information before vaccination. Make use of this opportunity!

Which doctor carries out vaccination?
In principle, every licensed doctor may vaccinate. Not every doctor is allowed to bill health insurance funds for vaccinations. General practitioners and paediatricians are authorized to vaccinate just about everywhere. Gynaecologists are also in many cases entitled to vaccinate.

Do I have to prepare myself for vaccination?
No particular preparation is necessary. On the other hand, you should be sure to take your vaccination booklet *(Impfbuch, Impfausweis* or *Impfpass)* with you to the vaccination appointment, and also when you go for the first time to a new doctor. If you do not have a vaccination booklet, or have lost it, your doctor can provide you with a new one.

What do I have to pay for vaccination?
At the present time, all vaccinations recommended by STIKO are available to insured persons **free of charge.**
The cost of occupation-related vaccinations must be paid by your employer. Only recommended travel vaccinations – with the exception of polio vaccination – are not a standard benefit of statutory health insurance funds. However, many health insurance funds pay on a voluntary basis for travel vaccination, as well as for HPV vaccination for those over 18 years of age and influenza virus vaccination – wholly or in part – for persons under 60 years of age. Obtain information in advance from your insurance fund and your doctor.

When can vaccination take place, and when not?
There are few medical grounds for not having, or postponing a recommended vaccination. The two most important are an acute infectious disease that requires treatment and an allergy against a component of the respective vaccine. Infections with a temperature of up to 38.5 °C, which are very common among small children, are not an impediment to vaccination.
Unfortunately, people with chronic illnesses, such as diabetes, asthma and cardiovascular disease, are often not vaccinated out of fear of a harmful reaction.

But the chronically ill, in particular, benefit most of all from vaccinations, since their immune system is often weaker than that of a healthy person, and they are therefore more susceptible to infectious diseases.

What should I be vaccinated against?

Follow STIKO recommendations (see vaccination calendar, Figure 8). When vaccinations recommended for children and youths have been wholly or partly missed, they should be given when possible before their 18th birthday. This is important, since belated vaccinations before their 18th birthday are a standard benefit of state health insurance funds and therefore **free of charge**.

The vaccination calendar lists all standard vaccinations. Depending on one's personal circumstances, some vaccinations (indicated vaccinations) are considered sensible additions.

Many health insurance funds pay the cost of these vaccinations as well as – wholly or in part – that of many travel vaccinations.

Experience shows that it is difficult for laypeople to keep track of all recommended vaccinations. We therefore recommend that you look into your vaccination booklet together with your doctor at regular intervals, best is once a year.

Obtain information on necessary travel vaccinations at least six weeks before setting out on long-distance travel.

What should be considered in the case of family planning and during pregnancy and breastfeeding?

All women of childbearing age, and especially all women keen to have children, should check their immunization against rubella (German measles) and chickenpox, since these viruses can lead in unborn children to malformations or even death. Adequate protection against whooping cough is also important.

During pregnancy, only absolutely necessary vaccinations should be carried out, in order to avoid risks for the child. Tetanus and diphtheria are largely harmless, and therefore an exception.

Influenza virus vaccination is even expressly recommended for pregnant women. It is particularly important for pregnant women with inadequate immunization that the people in their close vicinity are vaccinated. This will prevent their infecting the pregnant woman and thus endangering mother and child.

It also applies here that, where possible, basic immunization also of family members should be completed before commencement of pregnancy, in accordance with the specifications of the STIKO Vaccination Calendar (Figure 8). No particular precautionary measures have to be taken during breastfeeding with regard to vaccination.

How should I behave after vaccination?

No particular rules of behaviour have to be complied with following vaccination.

However, a certain lack of energy or even a high temperature could have the result that for one to three days you are unable to do as much as usual. You should therefore avoid strenuous sporting activities.
In the case of fever, drugs should be taken that lower body temperature.
Cooling and rest help against swellings.
If you are uncertain, ask your doctor.

Which travel vaccinations do I need?
On the Websites of the *Centrum für Reisemedizin* (http://www.crm.de or http://www.impfkontrolle.de), of the *Deutsche Gesellschaft für Tropenmedizin* (http://dtg.org) and the *Bernhard-Nocht-Institut* (http://www.gesundes-reisen.de) you will find up-to-date health information for many countries, including respective vaccination recommendations. Bear in mind the following two points with regard to travel vaccinations:

Begin early !
Begin early! With many vaccinations, it takes at least six to eight weeks to develop adequate immunization. If vaccinations against yellow fever and meningococcal disease, which are compulsory for entry into some countries, have been obtained too close to the date of travel, they will not be recognized by the country of destination, with the result that you will not be able to enter the country (Table 1)!

Clarify the question of who pays !
With the exception of poliomyelitis, travel vaccination is not a standard benefit of statutory health insurance funds. Check at an early stage whether your insurance fund pays the costs.

Vaccination against	Vaccination at the latest	Vaccination valid	Comment
Yellow fever	10 days before entry	Life-long*	Vaccination only at certified yellow fever vaccination centres
Meningococcal disease	10 days before entry	3 years after vaccination	A combination vaccine against types A, C, W135 and Y is generally necessary

Table 1: Information on compulsory travel vaccinations against yellow fever and meningococcal disease. Some countries demand evidence of vaccination against yellow fever and/or meningococcal disease (international vaccination certificate in the vaccination booklet) before granting entry into the respective country. Further vaccinations (for example, against the influenza virus) can occasionally be demanded. Obtain information in good time.

* However, some countries continue to require travellers to provide proof of a booster vaccination for yellow fever where their original yellow fever vaccination certificate is older than ten years. Please therefore observe each country's immigration regulations.

Major diseases that can be prevented through vaccination

Diphtheria

Germ	*Corynebacterium diphtheriae*
Transmission route	Droplet infection or direct bodily contact
Disease pattern	Fever, general malaise, sore throat and swelling, typical whitish coating in the mouth and throat cavity as well as difficulties in breathing and swallowing
Complications	Constriction of the respiratory tract, damage to the heart muscle, damage to the kidneys and liver as well as signs of paralysis

Haemophilus influenzae type b (Hib)

Germ	*Haemophilus influenzae* type b bacterium
Transmission route	Droplet infection
Disease pattern	High temperature
Complications	Ulcerous meningitis, seizures and lasting brain damage or inflammation of the epiglottis with respiratory distress and asphyxiation, blood poisoning and pneumonia

Hepatitis B

Germ	Hepatitis B virus (HBV)
Transmission route	Blood (birth!) and other body fluids, sexual intercourse
Disease pattern	Often yellowing of the skin, dark-coloured urine, increase in the size of the liver, unspecific complaints
Complications	Chronic development that can lead to cirrhosis or liver cancer

If you want to know more about the benefits of vaccination, we recommend the compilation of the Deutsches Grünes Kreuz (DGK) entitled *Infektionserreger von A bis Z*, which is accessible online.
Furthermore, your doctor is familiar with disease patterns, advantages and possible risks of vaccinations as well as with current STIKO recommendations and can discuss the best approach with you. **Let him advise you!**

Human papillomavirus (HPV)

Germ	Various types of human papillomavirus (HPV)
Transmission route	Infection through direct skin or mucous membrane contact, generally through sexual contact
Disease pattern	Pathological changes in the cervix do not generally cause pain or other complaints. Symptoms mostly occur when the cancer has already reached an advanced stage.
Complications	
Women	Cervical cancer, vaginal cancer, cancer of the vaginal vestibule
Men	Penile cancer
Both men and women	Genital warts, anal cancer, cancer of the head/neck area

Influenza

Germ	Influenza viruses
Transmission route	Droplet infection
Disease pattern	Sudden high temperature, headache, sore throat and muscle pains as well as pains in the limbs, coughing and bronchitis
Complications	Pneumonia, inflammation of the heart muscle, sinusitis, inflammation of the nervous system; deterioration of basic chronic illnesses

Whooping cough (pertussis)

Germ	*Bordetella pertussis* bacterium
Transmission route	Droplet infection
Disease pattern	Coughing fits that last for weeks, partly accompanied by respiratory distress, vomiting, choking fits (with infants occasionally coughing owing to "silent" reflux)
Complications	Middle ear inflammation, pneumonia, seizures, haemorrhaging; particularly with infants: permanent brain damage, respiratory arrest

Poliomyelitis ("polio")

Germ	Polio viruses
Transmission route	Smear infection
Disease pattern	Frequently without symptoms. Mild form: unspecific symptoms with fever, sore throat and muscle pains as well as headaches. Severe form: additional stiffness of the neck and pains in the back
Complications	Signs of paralysis of the arms, legs or breathing; paralysis of the intestines and bladder

Measles (rubeola)

Germ	Measles (rubeola) virus
Transmission route	Droplet infection
Disease pattern	Fever, runny nose, conjunctivitis, inflammation in the nose and throat region, typical red rash on the whole body; occasionally diarrhoea
Complications	Middle ear infection and inflammation of the lungs, cerebral inflammation, chronic persistent infection of the central nervous system (SSPE), scarring of the cornea

Meningococcal diseases

Germ	*Neisseria meningitidis* bacterium
Transmission route	Droplet infection
Disease pattern	Mild form: respiratory infection, rash
Complications	High temperature, rash with skin haemorrhages, shock symptoms, meningitis, blood poisoning, coma

Mumps

Germ	Mumps virus
Transmission route	Droplet infection
Disease pattern	Headaches, inflammation of the parotid and other salivary glands
Complications	Meningitis and encephalitis, permanent hearing loss, impairment of fertility through inflammation of the testes or an ovary (ovaritis)

Pneumococcal diseases

Germ	*Streptococcus pneumoniae bacteria*
Transmission route	Droplet infection
Disease pattern	Fever, coughing, middle ear inflammation and sinusitis
Complications	Pneumonia, ulcerous meningitis, blood poisoning

Rotavirus diseases

Germ	Rotaviren
Transmission route	Smear infection
Disease pattern	Often suddenly begins: diarrhoea and vomiting, fever
Complications	Severe diarrhoea and vomiting with small children; can become serious if untreated, due to dehydration

German measles (rubella)

Germ	German measles (rubella) virus
Transmission route	Droplet infection; blood (pregnancy!)
Disease pattern	Often without symptoms (but nevertheless infectious for others, especially for pregnant women without previous illness or vaccination). Form: fever, flu-like symptoms, light red, finely spotted rash
Complications	Malformations of the unborn child (primarily of the eyes, ears, heart and brain if the mother is infected during pregnancy), premature birth, arthritis, encephalitis and pneumonia

Chickenpox (varicella)

Germ	Germ causes not only chickenpox (initial illness) but possibly later also shingles *(Herpes zoster)*
Transmission route	Droplet infection; direct contact; blood (pregnancy!)
Disease pattern	Fever, headaches and pain in the limbs, nausea and itching rash with small blisters
Complications	Bacterial inflammation of the skin on scratched blisters, pneumonia, inflammation of the brain, cerebellum or meninges, malformations of the unborn child if the mother is infected during pregnancy. Can take a severe form in newborns if the mother is infected around the time of birth

Tetanus

Germ	*Clostridium tetani* bacterium
Transmission route	By way of open, even tiny wounds. Dirty wounds are particularly dangerous.
Disease pattern	Spasms of masticatory (chewing) and facial muscles, later spasms throughout the whole body
Complications	Pneumonia, paralysis of the breathing muscles, bone fractures, ventricular fibrillation, cardiac arrest

The most important technical terms

Allergy

An incompatibility reaction against a substance. The body can react in a number of different ways. Besides a skin reaction, in the worst case an allergic shock can occur, namely life-threatening circulatory failure.

Antibodies

Antibodies are created by the immune system following contact with a pathogenic germ or after vaccination against such a germ.

Bacterium

Single-cell micro-organism without cell nucleus, but with its own metabolism. Reproduction takes place by means of cell division.

Basic immunization

Basic protection against a disease is generally established through administering multiple doses of a vaccine at predetermined intervals.

Booster vaccination

A follow-up vaccination that takes place a certain period of time after basic immunization in order to stimulate the immune system anew and to increase antibody concentration once more.

Chronic

Slowly developing, insidious, of long duration (in contrast to acute).

Guideline on Active Immunization

The Guideline on Active Immunization lays down standard vaccinations that are binding on all statutory health insurance funds. It is based on STIKO recommendations and is published by the Joint Federal Committee *(Gemeinsamer Bundesausschuss – G-BA)* of doctors, dentists, psychotherapists, hospitals and statutory health insurance funds in Germany.

Host

Host is a biological term that describes an organism that supplies not only itself but also several other organisms with vital nourishment.

Immune cells

A large number of cell types and their complex interplay are of great importance for immune defence. This group of cells is called immune cells.

Indicated vaccination

A vaccination that is recommended over and above standard vaccinations on the grounds of particular personal or health circumstances.

Infectious disease

Disease that is caused by a transmissible germ.

Living vaccine

Vaccines from attenuated yet fertile germs, which give rise to a real but harmless infection, and this way provide active immunization.

"Officially recommended" vaccination

For the protection of public health, the individual statutory health authorities prepare a catalogue of "officially recommended" vaccinations on the basis of current STIKO recommendations.
Should vaccination damage occur as a result of such vaccination, the person is entitled to State compensation.

Parasite

Parasites are organisms that gather nourishment from other organisms. These latter organisms, which are also called host organisms, are damaged in the process, but destroyed, if at all, only at a later point in time. Examples are tapeworms and viruses.

Standard vaccination

Vaccinations recommended by STIKO for the general public and depending on age. They are among general benefits of state health insurance funds and are therefore free of charge for insured persons.

STIKO

The Standing Committee on Vaccination (STIKO) is an independent committee of experts at the Robert Koch Institute (RKI) in Berlin, which prepares annually updated vaccination recommendations.

Travel vaccination

In addition to standard vaccinations recommended in Germany, travel vaccination is required for protection against diseases prevalent in the country of destination.
For entry into some countries, an official vaccination certificate is required for certain diseases (yellow fever and meningococcal disease).

Vaccination booklet (also known as vaccination card or vaccination record)

Vaccinations are recorded in this document after having been administered. It should be regularly shown to your doctor so that he can check your vaccination status.

Vaccination calendar

The STIKO Vaccination Calendar lists all standard vaccinations (see Figure 8). It shows the vaccinations that a person should obtain at a particular age.

Vaccination complications

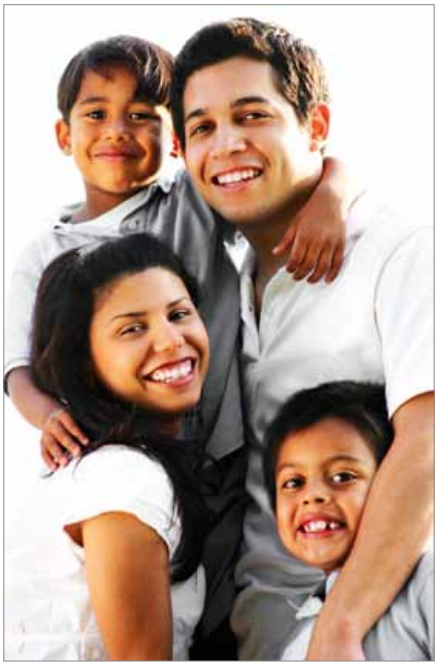
A vaccination reaction beyond normal severity. "Normal" here means temporary reddening, swellings and pain at the injection site and increases in temperature up to 39.5 °C as well as swellings of local lymph nodes. Vaccination complications have to be reported to the authorities.

Vaccination damage

A vaccination reaction beyond normal severity, which can lead to permanent, adverse health or economic effects on the part of the vaccinated person or third parties. Accidents on the way to or from a vaccination appointment are treated for insurance purposes as vaccination damage.

Virus, pl. Viruses

Viruses are parasites in the cells of living organisms. They contain the "programme" for their own reproduction and propagation, but do not have their own metabolism and are therefore dependent on the metabolism of host cells.



The most important addresses

Bundeszentrale für gesundheitliche Aufklärung (BZgA)

Ostmerheimer Str. 220 | 51109 Köln
Tel.: 0221 89920 | Fax: 0221 8992300
E-Mail: poststelle@bzga.de (für Anfragen, Mitteilungen)
E-Mail: order@bzga.de (für Bestellungen von Medien und Materialien)
http://www.bzga.de

The BZgA, a federal agency for prevention and health promotion, develops strategies that it implements through campaigns, programmes and projects.
Further key activities include the development of basic principles and guidelines for the content and methods of practical health education, vocational and further training of persons in the health education area, as well as the co-ordination and strengthening of health education. For these purposes, it operates various information portals, administers specialized databases and also publishes its own scientific studies. The BZgA is a federal agency under the authority of the Federal Ministry of Health.

CRM Centrum für Reisemedizin GmbH

Hansaallee 299 | 40549 Düsseldorf
Tel.: 0211 90429-0 | Fax: 0211 90429-99
E-Mail: info@crm.de | http://www.crm.de

The CRM is a scientific institute devoted to improvement in the medical advice and care of foreign travellers. For this purpose, it compiles and evaluates information on the risks of infection as well as on other relevant health risks. The CRM provides access to a travel-medicine database with information on travel destinations as well as on hygiene standards and diseases in these countries. It also lists yellow fever vaccination centres and doctors trained in travel medicine.

Deutsches Grünes Kreuz e. V. (DGK)

Nikolaistraße 3 | 35037 Marburg
Tel.: 06421 2930 | Fax: 06421 229-10
E-Mail: dgk@kilian.de | http://dgk.de

The DGK is the oldest association for the promotion of health care and communication in Germany. Its objective is the preparation and communication of health-related information for the general public. For this purpose it operates an extensive information portal.

Deutsche Gesellschaft für Tropenmedizin und Internationale Gesundheit e. V. (DTG)

c/o Bernhard-Nocht-Institut für Tropenmedizin
Bernhard-Nocht-Str. 74 | 20359 Hamburg
Tel.: 040 42818-478 | Fax: 040 42818-512
www.dtg.org

The DTG is an affiliation of specialists in human and veterinary medicine as well as scientists who practice, carry out research and provide advice in the field of tropical medicine. Their tasks include preventative medical care of visitors to the tropics and subtropics as well as the identification and treatment of imported tropical diseases.
Part of the disseminated information on topics of tropical and travel medicine covers detailed advice on vaccinations and infectious diseases. In addition, a list of yellow-fever vaccination centres throughout Germany is published. The DTG does not, however, offer advice on an individual basis.

Paul-Ehrlich-Institut (PEI)

Bundesinstitut für Impfstoffe und biomedizinische Arzneimittel
Paul-Ehrlich-Straße 51–59 | 63225 Langen
Tel.: 06103 77-0 | Fax: 06103 77-1234
E-Mail: pei@pei.de | http://www.pei.de

The Paul-Ehrlich-Institut (PEI)/Federal Institution for Vaccines and Biological Medicinal Products controls the safety and effectiveness of biological medicinal products such as vaccines for humans and animals as well as blood-based medicinal products.
The area of responsibility of the Paul-Ehrlich-Institut is varied and covers, among other things, the licensing and control of biological medicinal products, the authorization of clinical tests and the assessment of the side effects of medicinal products. In addition, the Institute pursues its own research in fields such as virology, immunology as well as cell and gene therapy.

Reisemedizinisches Zentrum am Bernhard-Nocht-Institut

MD Medicus Reise- und Tropenmedizin GmbH
Bernhard-Nocht-Str. 74 | 20359 Hamburg
Tel.: 0900 1234999 (1.80/Min) | Fax: 040 42818-340
E-Mail: rmz@gesundes-reisen.de | http://www.gesundes-reisen.de

The Centre for Travel Medicine publishes up-to-date information on outbreaks of disease as well as tips on health care while travelling.
Background information on individual destination countries cover health-relevant topics such as respective standards of hygiene, the environmental situation and current risks of infection. A telephone hotline for travel advice is also available.

Robert Koch-Institut (RKI) / Ständige Impfkommission (STIKO)

Nordufer 20 | 13353 Berlin
Tel.: 030 18754-0 | Fax: 030 18754-2328
http://www.rki.de

The RKI is the central federal institution in the field of public health, and is responsible for the identification, prevention and control of diseases. The RKI advises a professional audience, responsible federal ministries and, in particular, the Federal Ministry of Health.
Several scientific commissions are located at the RKI, including the Standing Committee on Vaccinations (STIKO), which publishes recommendations on vaccination.
The RKI provides information on the topic of vaccination on its German-language Website at: http://www.rki.de/DE/Content/Infekt/Impfen/impfen_node.html. It cannot, however, provide advice on an individual basis. The person to contact regarding all questions connected with vaccinations is your family doctor or general practitioner.

Useful Internet addresses

www.gesundes-kind.de

www.impf-experten.de

www.impfenaktuell.de

www.impfen-info.de

www.j1-info.de/impfen/

www.kindergesundheit-info.de/themen/risiken-vorbeugen/impfen

www.kinderaerzte-im-netz.de

www.mimi-impfen.de

www.netdoktor.de/Gesund-Leben/Impfungen

www.reisemed-experten.de

My personal vaccination plan

With the help of a "personal vaccination plan", you can establish your current vaccination status and that of members of your family. You can check at a glance those vaccinations that should be boosted or even repeated. We ask you to bear in mind that the "personal vaccination plan" contained in this Guide serves merely the purpose of initial orientation, and is **no substitute** for the vaccination booklet that is filled in by your doctor (see pages 17 and 25). Should you be uncertain or have questions, contact your doctor.

We recommend the following procedure in preparing a personal vaccination plan:

On page 13 of this Guide you will find the current STIKO 2015 Vaccination Calendar. It lists the vaccinations that are recommended for the protection of your family against infectious diseases. In addition, it contains detailed information on when these vaccinations should best be carried out. On the basis of the information provided, you can check – vaccination for vaccination – whether the recommended vaccinations have been **completed** in your case.

Should this be the case, mark the corresponding box for the respective vaccination under "already completed" with a cross Should vaccination not have been completed – for example, because vaccinations were not carried out in early years, because you cannot remember the details for a particular vaccination, or because you have recently missed a vaccination – mark the corresponding box under "Will catch up/ have a booster vaccination" with a cross. The same procedure applies for your partner and children.

Benefits of the "personal vaccination plan"

- With it, you obtain an initial, provisional view of your vaccination status.
- It also helps discussion of further details with your doctor.

My personal vaccination plan

Vaccination against	Already completed	Will catch up/have a booster vaccination
Diphtheria	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4
Hepatitis B	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4
Haemophilus influenzae b (Hib)	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4
Human papilloma-virus (HPV)	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4
Influenza	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4
Whooping cough (Pertussis)	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4
Poliymyelitis (“polio”)	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4
Measles/Mumps/ Rubella (MMR)	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4
Meningococcal diseases	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4
Pneumococcal diseases	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4
Rotavirus*	☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4	☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4
Tetanus	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4
Chickenpox	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4	☐ I ☐ Partner ☐ Child 1 ☐ Child 2 ☐ Child 3 ☐ Child 4

* affects only infants in the first six months of life

The main points in brief

- **Vaccination is important at *all* ages.**
- **Vaccinations are recommended by independent experts.** The Standing Committee on Vaccination (STIKO) prepares annually updated recommendations on vaccination, including the Vaccination Calendar, on behalf of the German Government.
- **Vaccination is safe.** Independent institutions and public authorities check and control the quality, safety and benefits of vaccinations and vaccines.
- **Vaccination is generally free of charge.** Practically all vaccinations recommended by STIKO are a standard benefit of statutory insurance funds and are available to insured persons free of charge. No additional payment is required for vaccines.
- **Have your vaccination status checked regularly.** Your vaccination status and that of your child should be checked regularly by your doctor, ideally once a year (please remember to take along your vaccination booklet). Vaccinations that are overdue should be carried out as soon as possible.
- **Before going on holiday or travelling to your country of origin, you should check your vaccination status** with regard to the country you plan to visit *at least* 6 weeks before departure.
- **Get vaccinated in good time before pregnancy.** Women of childbearing age, and particularly women who are keen to have children, should have their immunization and that of their family members checked as early as possible.

Good health is an essential precondition for a self-determined, active life. Vaccination is a well-proven means of protecting people of all age groups against infectious diseases. This way, and with little effort, everyone can do something for his or her health.

This Guide is for migrants in particular. It serves the purpose of initial orientation, and focuses on practical questions such as the cost of vaccination, matters of particular interest for pregnant women and general behaviour after vaccination.

With the help of a Personal Vaccination Plan and the 2015 Vaccination Calendar contained in this Guide, you can quickly check whether you and members of your family have adequate immunization. You will also find the addresses of the main institutions as well as an explanation of the most important technical terms.

Your doctor is and remains your most important contact person.

This Guide was given to you by:

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