

## **Vaccination: for and against**

Yakushev Aleksandr Michaylovich

Candidate of Medical Sciences, Associate Professor

Ural State Medical University

Yekaterinburg, Russia

Ten Angelika Ragipovna

Assistant

Ural State Medical University

Yekaterinburg, Russia

Andreeva Anastasiy Sergeevna

Student

Ural State Medical University

Yekaterinburg, Russia

**Abstract.** This article deals with current issues of vaccine prophylaxis, questions about the refusal of admission of a child to children's organized groups, and how a doctor should work with opponents of vaccinations.

**Keywords:** vaccine prophylaxis, vaccination, vaccination calendar, children.

**Relevance:** in medicine today, vaccination is considered an economically profitable and effective measure related to the prevention of infectious diseases among the population. This is a recognized fact, but still the attitude towards vaccine prophylaxis around the world remains ambiguous. This is largely due to the very contradictory information about the vaccine prophylaxis. A negative role is played by constant discussions in the media on this topic, as a result of which a negative attitude towards vaccination began to form among many parents and a complete denial of the opinion of doctors and scientists. This led to a massive refusal of vaccinations and, as a consequence, an increase in the incidence, in some cases reaching an epidemic level. In this regard, the work in the field of health education of the population in the field of vaccine prophylaxis acquires extreme relevance in our time.

**Purpose of the study:** according to the latest literature sources, to study the importance and significance of vaccine prophylaxis infectious diseases among children, to justify the need for vaccine prophylaxis.

**Materials and methods:** theoretical analysis of literary sources and normative documentation.

**Results and its discussion:** in the Russian Federation, all vaccinations are carried out in accordance with the National Calendar of Preventive Vaccinations (tab. 1), which regulates the timing and procedure for introducing preventive vaccinations [1,6]. In addition, there is a regional calendar of preventive vaccinations, which additionally includes vaccinations that can be delivered depending on the epidemiological situation in the region. This calendar includes vaccines against 24 infections.

*Table 1. Calendar of preventive vaccinations (in accordance with the Order of the Ministry of Health of the RF of 24.04.2019, № 243n)*

Age	Vaccination name
Newborns (first 12 months)	Hepatitis B 1 vaccination
3-7 days	Tuberculosis (BCG-M or BCG)
1 month	Hepatitis B 2 vaccination
2 months	Hepatitis B 3 vaccination (children at risk)
3 months	Diphtheria, whooping cough, tetanus, polio, haemophilus influenzae (first vaccination)
4,5 months	Diphtheria, whooping cough, tetanus, polio, haemophilus influenzae (second vaccination)
6 months	Hepatitis B 3 vaccination, diphtheria, whooping cough, tetanus, poliomyelitis, hemophilic infection (third vaccination)
12 months	Hepatitis B 4 vaccination (children at risk) Measles, rubella, mumps
18 months	Diphtheria, whooping cough, tetanus, poliomyelitis, hemophilic infection (first revaccination)
20 months	Poliomyelitis (second revaccination)
6 years	Measles, rubella, mumps (revaccination)
6-7 years	Diphtheria, tetanus (second revaccination)
7 years	Tuberculosis (BCG) revaccination
14 years	Diphtheria, tetanus, polio (third vaccination) Tuberculosis (BCG) revaccination
Adults	Diphtheria, tetanus (every 10 years)

	revaccination
Children from 1 to 18 years old, adults from 18 to 55 years old, not previously vaccinated	Hepatitis B
Children from 1 to 18 years old, girls from 18 to 25 years old, not sick, not vaccinated, vaccinated once against rubella	Rubella
Children from 6 months old, students of grades 1-11, students of higher and secondary vocational educational institutions, adults working in certain types of professions and positions (medical and educational institutions, transport, utilities, etc.), adults over 60 years old	Flu
Children aged 15-17 and adults under 35 who have not been sick, not vaccinated and have no knowledge of measles vaccinations	Measles

At the moment, the National Vaccination Schedule includes vaccinations against 12 infections:

- viral hepatitis B,
- tuberculosis,
- pneumococcal infection,
- diphtheria,
- whooping cough,
- tetanus,
- polio,
- hemophilic infection (Hib),
- measles,
- rubella,
- parotitis,
- flu.

All of these vaccinations must be given to every child, if he has no medical contraindications for vaccination. At the moment, vaccine prophylaxis prevents a huge number of deaths and

protects children not only from those diseases that are provided for by the national vaccination calendar, such as diphtheria, pertussis, tetanus, polio and measles, but also such as pneumonia and rotavirus infection. These are two infectious diseases that are the leading cause of death in children under 5 years of age.

Vaccine preventable diseases can be especially dangerous for young children. No one can guarantee whether a child will survive the infection in a mild form or in a severe and with serious complications [3,8].

Without vaccines, a child is at risk of serious illness, pain, disability and / or even death from diseases such as measles and pertussis — these are life-threatening diseases for the child [5,10].

Currently, in the Russian Federation, there is an increase in the incidence of measles - 3.5 times, whooping cough - 1.9 times - most of the cases are children under 14 years old. This is largely due to the refusal of parents to vaccinate their children.

Vaccination — is the safest way to help your child acquire immunity to vaccine-preventable diseases. The development of acquired immunity to infection after vaccination is associated with a much lower risk to the health of the child than immunity after an infectious disease. It is impossible to get infected from the vaccine. Inactivated vaccines contain killed microbial particles or their fragments that cannot cause disease. Live vaccines contain weakened microorganisms that also cannot cause disease [4,5,9,10].

According to the World Health Organization (WHO) Regional Office for Europe, routine immunization against diseases such as polio, tetanus, diphtheria, whooping cough, measles and mumps saves the lives and health of more than 3 million children worldwide every year. But, despite all this, pediatricians are increasingly faced with the refusal of parents to vaccinate their child, referring to the fact that vaccinations are contraindicated for them.

Paying attention to this, one should remember what contraindications there are to vaccinating a child.

**Absolute contraindications for vaccination [1]:**

- Severe reaction to a previous similar vaccination (temperature from 40.0, convulsions, edema more than 8 centimeters in diameter, anaphylactic shock, severe allergic reactions);
- Malignant neoplasms, immunodeficiency states of the body;
- The period of pregnancy and lactation.

**Temporary contraindications [1]:**

- flu or SARS with fever (vaccinated no earlier than 2 months after recovery);
- chronic diseases (vaccination of a child is possible after the approval of his attending physician);

- prematurity (the child is vaccinated only after he reaches 2 kg);
- immunosuppressive therapy (at this time, you cannot vaccinate);
- after a blood transfusion or the introduction of immunoglobulins (vaccination is possible no earlier than 3 months later).

Observance of the rights of citizens and responsibility for refusal to vaccinate are also topical issues today.

What is the threat to parents who refuse to vaccinate their child?

Restriction of the rights of citizens in case of refusal to immunize can be allowed only in order to protect their own health and can be expressed:

- In the temporary refusal of admission: for work, children's organized groups, educational institutions, etc. during an epidemic of diseases.
- In the temporary refusal to leave citizens to countries requiring vaccinations according to international rules. The legislation of the Russian Federation does not provide for punishment for refusal to vaccinate (in accordance with the FL of the RF of September 17, 1998, № 157-FZ "On immunization of infectious diseases") [1,6].

Also, parents very often face the question of whether doctors have the right to vaccinate a child without their consent?

Not. For vaccination, parents must sign an informed voluntary consent, and only if it is available, doctors administer the vaccine to the child. Even if quarantine is declared in your region or city in the midst of an epidemic, no one has the right to force or without your consent to vaccinate a child (clauses 1-2 of article 5 of the Federal Law N 157-FZ). Note that after 15 years of age, grown-up children are recognized as independent citizens of the Russian Federation in matters of medical intervention and can themselves make a decision on vaccination, part 2 of article 54 of the Federal Law No. 323-FZ.

The question that has been actively discussed today was and remains, will the child be taken to kindergarten / school without vaccinations?

Many parents are convinced that their child will not be taken anywhere without a vaccination card, but this is a misconception. The state is obliged to ensure every person the right to education and its general availability (clause 2 of article 41 of the Constitution of the RF) [2,7]. Therefore, they are obliged to take a child to educational institutions, regardless of the presence or absence of vaccinations. A child can be removed from classes only during the quarantine period, that is, during an unfavorable epidemiological situation.

The question of how a doctor should work with vaccine opponents is still open.

One of the important criteria by which parents determine whether to vaccinate their child or not is how thoroughly and convincingly the doctor motivated them the need for immunization,

and how well he dispelled their doubts. When convincing the effectiveness of vaccination, the physician should avoid using medical terminology that is difficult for patients to understand. In some cases, the case for a lot of medical research supporting the safety of vaccines is very compelling. The description of the clinical picture of diseases is, as a rule, a powerful incentive for immunization, because many parents simply do not imagine the full severity of diseases from which the vaccine can protect, considering the fear of them to be greatly exaggerated. If, after all the convictions, the parents are resolutely against vaccination, then the life and health of the child remains on their conscience [3,8].

**Conclusions:** One of the most important problems in modern society is the rejection of vaccinations. The emergence of the anti-vaccine movement is primarily associated with the massive discussion of this topic on the Internet, newspapers, and television. As a rule, the people participating in the discussion are not doctors, most often they are bloggers, writers or people of other specialties who have nothing to do with medicine. In this regard, there is a decrease in the general level of knowledge of the population about diseases, their complications and methods of prevention. It is worth noting that the need for vaccine prophylaxis should be explained at the level of district pediatricians, and for this the doctor must be able to prove his point of view and convey it to the parents.

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