

# Passive immunization

## Passive immunization:

- natural - IgG crossing the placenta, antibodies in breast milk;
- artificial - is used to quickly induce immunity by administering ready-made antibodies.

## Types of antibodies used for passive immunization

- Animal - heterologous, xenogeneic globulins.
- Human - homologous, allogeneic **normal** or **hyperimmune** globulins:
  - **Monospecific** - designed to passively increase immunity against certain infectious diseases.
  - **Polyspecific** - intended for substitution treatment of antibody immunodeficiencies.

It is used to induce the so-called booster effect - ie. rapid induction of the immune system after administration of ready-made antibodies.

## Disadvantages

The disadvantage is the temporary effect (several days or weeks), especially for heterologous globulins.

Furthermore, the possibility of complications:

- mild - headaches, back pain, palpitations;
- severe - anaphylactic shock, serum sickness.

Therefore, it must be administered in fractions.

## Passive immunization is used:

- **Preventively** - when, for example, a seasonal increase in incidence is approaching, and it may be too late for vaccination.
- **Prophylactically** - to immunize people at risk of contact with a patient or suspected of being infected.
- **For therapy** - we give much larger doses.

Passive immunization is necessary, for example, in acute poisoning by certain toxins (snake venoms, bacterial, etc.). The administered antibodies bind to and neutralize the toxin.

## Links

### Related articles

- Active immunization
- Simultaneous combined immunization
- Specific immunity
- Non-specific immunity
- Antibodies
- Breakdown of vaccination in the Czech Republic
- Regular vaccinations in the Czech Republic

Sources:

- LAW, M a L HANGARTNER. Antibodies against viruses: passive and active immunization. *Current Opinion in Immunology*. 2008, vol. 20, no. 4, s. 486-492, ISSN 0952-7915.
- FRENKEL, LD a K NIELSEN. Immunization issues for the 21st century. *Annals of Allergy, Asthma & Immunology*. 2003, vol. 90, no. 6, s. 45-52, ISSN 1081-1206.
- ŠTERZL, Ivan, et al. *Základy imunologie pro zubní a všeobecné lékaře*. 1. vydání. Praha : Nakladatelství Karolinum, 2005. 207 s. ISBN 80-246-0972-X.
- SMÍŠEK, J. *Imunizace a očkovací látky* [online]. ©2008. [cit. 2009-12-02]. <<http://mikrobiologie.lf3.cuni.cz/mikrobiologie/teozak/imun/imunizace.pdf>>.