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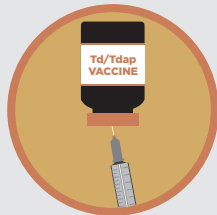
TETANUS, DIPHTHERIA, WHOOPING COUGH (Td/Tdap)

WHAT YOU NEED TO KNOW

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ARE YOU SURE YOU USE THE RIGHT MEASURES TO PROTECT YOURSELF
AGAINST TETANUS, DIPHTHERIA OR PERTUSSIS?

GET INFORMED! GET VACCINATED! GET PROTECTED!



DID YOU KNOW THAT ABOUT **TETANUS (lockjaw), DIPHTHERIA AND PERTUSSIS (whooping cough)?**

- Td, is the vaccine appropriate for adults which protects against tetanus (lockjaw) and diphtheria, while Tdap also includes protection against pertussis (whooping cough).

Lower case letters d and p mean smaller quantity of diphtheria and pertussis factors in this vaccine, compared with the one used for young children.

- Every adult needs a booster dose for tetanus (lockjaw) every 10 years and once in your adult life you need to receive the Tdap vaccine against tetanus, diphtheria and pertussis, even if you were vaccinated as a child.
- Diphtheria used to kill thousands of children before systematic immunizations started in the '50s and '60s.
- Pertussis (whooping cough) outbreaks are common in the last years; usually adults with milder symptoms transmit the disease to young children.

THE DISEASES IN SHORT

Tetanus is rare in the European Union countries, although about 130 cases are reported every year mostly from rural areas.

Diphtheria used to kill thousands of people, mostly children, before the vaccine was systematically used. The most recent epidemic of diphtheria was recorded in the former Soviet Republics in the mid 90's. However, deaths from diphtheria have been diagnosed in EU countries in the last years (2014-2015).

Every year >10,000 cases of pertussis are reported in the EU. Between 2012-2015 significant whooping cough outbreaks are reported in the USA.

TETANUS (LOCKJAW)

SYMPTOMS

People become infected with tetanus through the contamination of an open wound with soil, where the bacterium spores (a resistant form of the organism) live. The first and most frequent symptom is spasm of the jaw muscles, followed by stiffness of the neck, difficulty in swallowing and stiffness of the abdominal muscles. Patients react violently to any stimulation with severe muscle spasms. The illness also causes fever, sweating, high blood pressure and fast heart rate.

TREATMENT

There is no specific treatment for tetanus, but doctors use the tetanus vaccine and ready antibodies from humans or horses to prevent the disease or its complications.

DIPHThERIA

SYMPTOMS

Diphtheria is a serious bacterial disease caused by a toxin-producing bacterium. It starts with cold symptoms, such as runny nose and cough. Progressively one of its forms may cause a thick grey coating at the back of the throat, which makes it difficult to breathe or swallow. 1-2% of patients may present only skin ulcers (cutaneous diphtheria).

TREATMENT

Ready antibodies against diphtheria toxin from horses (antitoxin) are used to prevent complications, while at the same time erythromycin is used to eradicate the diphtheria bacterium from the patient's throat.

PERTUSSIS (whooping cough)

SYMPTOMS

Pertussis causes serious and prolonged cough. The disease usually starts as a cold and severe coughing spells develop one week later. The cough can persist for weeks (also called “the 100-day cough”), comes in attacks and sometimes can cause very young babies to stop breathing. Adults may experience persistent cough or milder symptoms.

TREATMENT

There is no specific treatment for pertussis, but specific antibiotics may be given to the patient and the people who are in close contact to prevent the spread of the disease.

WHO NEEDS A Td/Tdap VACCINE?

All healthcare workers and all adults need to have received full series (4-5 doses) of tetanus vaccines as children. If this history cannot be established then one dose of Tdap is recommended followed by two more doses of Td. After that booster doses of Td are recommended every 10 years.

All healthcare workers, who come in contact with patients, and all adults who come in contact with infants <12months old, need to receive one dose of Tdap in their lifetime.

WHEN DO I NEED A Td/Tdap VACCINE?

After an injury depending on:

- your vaccination history,
- the date of your last Td booster,
- the type of your injury,

your physician may administer a booster dose of Td or Tdap and possibly additional ready antibodies (tetanus immune globulin).

COMPLICATIONS ASSOCIATED WITH TETANUS, DIPHTHERIA AND PERTUSSIS

TETANUS

- Muscle spasms can cause
- bone fractures
- spasm of vocal cords, which may lead to need for mechanical ventilation, and
- loss of muscle and consequent kidney failure (rhabdomyolysis)
- Aspiration of stomach contents in the lungs
- Survivors may have neurologic sequelae
- Death up to 1 in 10 patients

DIPHTHERIA

- inflammation of the heart muscle (myocarditis), which can lead to heart insufficiency
- abnormal heart rhythm (heart block)
- nerve inflammation (neuritis) with temporary paralysis
- Secondary pneumonia
- Respiratory insufficiency
- Ear infection
- Low number of platelets
- Loss of protein in urine
- Death up to 1 in 10-20 patients with respiratory diphtheria; may go up to 1 in 5 children <5 years or adults > 40 years.

WHOOPIING COUGH

- Pneumonia (up to 1 in 4-5 infants)
- Ear Infection
- Loss of appetite
- Dehydration
- Hospitalization, up to 1 in 2 infants with pertussis
- Seizures up to 1 in 50 patients, mostly infants
- Inflammation of the brain (encephalitis/encephalopathy in up to 1 in 200 infants)
- Pneumothorax
- Nose bleeds
- Subdural hematoma
- Hernia
- Rib fractures
- Apnea, especially in infants <7 months old
- Death about 1 in 100 infants <2 months and 1 in 200 infants 2-11 months

BENEFITS OF THE Td/Tdap VACCINE

Full vaccination (4 or 5 doses) offers

- 97% clinical protection against diphtheria
- practically 100% protection against tetanus and
- about 85% protection against pertussis.

Antibody protection diminishes over time; after 5-8 years for pertussis and after 10 years for tetanus.

SIDE EFFECTS ASSOCIATED WITH Td/ Tdap VACCINE

Mild

(most frequent)

- Redness and swelling at the site of the injection
- Local pain at the site of the injection
- Mild fever (up to 38°C)
- Headache
- Tiredness
- Mild nausea, vomiting or diarrhea

Moderate

- High fever (>39°C)
- Significant headache (1/300 adults)
- Local swelling at the site of injection that interfered with activities
- Nausea, vomiting, diarrhea that interfered with activities (up to 1/100 adults)

Severe

(rare & very rare)

- Severe pain and bleeding at the site of the injection
- Severe allergic reaction: this may occur up to 1 in 1,000,000 doses.

WHERE CAN I FIND MORE INFORMATION?

1. BZgA, Germany: www.impfen-info.de
2. ECDC- Communication Toolkit on Immunisation: ecdc.europa.eu/en/healthtopics/immunisation/Pages/Communication-toolkit.aspx
3. WHO Europe: Vaccines and immunization, www.euro.who.int/en/health-topics/disease-prevention/vaccines-and-immunization
4. NIH, USA: www.vaccines.gov
5. Immunization Action Coalition, USA: www.immunize.org
6. National Centre for Immunisation Research & Surveillance, Australia: www.ncirs.edu.au



HProImmune
Promotion of Immunization for Health Professionals in Europe
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Disclaimer: The consortium partners declare no relevant conflict of interest with direct bearing on the subject matter of the HproImmune project. This pertains to relationships with pharmaceutical companies, biomedical device manufacturers and other companies with relation to vaccines.



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