

Vaccination against Diphtheria

Information by your physician and the Forum Impfen

The following information about diphtheria and vaccinations to prevent this infectious disease is intended to provide fundamental updated* facts to help you decide whether to participate in these vaccinations.

Diphtheria and its therapy

Diphtheria is caused by bacteria (*Corynebacterium diphtheriae*). These bacteria produce a toxin which is known to be one of the most effective inhibitors of protein production in the body cells. The pathogen is transmitted via secretions from the upper respiratory tract (droplet infection) or from wounds. It generally stays at the site of entry causing local diphtheria infection or harming other organs by spreading toxins via the blood. There are 3 different types of diphtheria: Pharyngeal diphtheria (bleeding, dirty-gray coating of the pharyngeal tonsils, palate and uvula, paralysis of the soft palate and pharynx muscles associated with difficult swallowing or respiratory paralysis), laryngeal diphtheria (coating on the larynx, swelling of the throat and suffocation) and cutaneous diphtheria (deep-lying, badly-healing abscesses). If the diphtheria toxin enters the circulation, it may lead to a life-threatening inflammation of the muscle of the heart (myocarditis). Diphtheria is treated with animal immunoglobulin and antibiotics

Vaccination against diphtheria

The vaccine contains a standardized amount of detoxified diphtheria toxin. The content in vaccines for adults is lower than in vaccines for children. The vaccine is injected into the muscle. For primary immunization, 3 doses, 4 to 6 weeks and 6 to 12 months apart, are administered. Diphtheria vaccination for children is usually administered as a combination vaccine including tetanus, pertussis, polio, haemophilus influenzae type b (Hib) and hepatitis B components; for adults in combination with tetanus or tetanus and poliomyelitis. After vaccination, extreme physical activities exceeding the routine level should be avoided. For adults, a booster dose should be administered every 10 years. For details about vaccination or reasons which may be considered as contraindication to vaccination, please contact your pharmacist. The following side-effects may occur after vaccination: As a normal reaction of the body to the vaccine up to 20% of the vaccinees may develop redness, pain and swelling at the injection site, sometimes associated with swelling of the nearby lymph nodes, within 1 to 3 days after vaccination; only in rare cases these side-effects persist for more than 3 days. Small nodules are very rarely observed at the injection site, in individual cases associated with a tendency to sterile suppuration. General symptoms such as a minor or moderate increase of temperature, flu-like symptoms (shivering, head- and joint aches, tiredness, cardiovascular problems) or gastrointestinal disorders (lack of appetite, nausea, vomiting, diarrhea) are reported occasionally (1% of the vaccinees); these reactions are however more common (10 % of the vaccinees) in individuals who received too many diphtheria vaccinations. Usually, these local and general reactions are transient and disappear rather quickly and without sequelae. Allergic reactions of the skin or the respiratory tract are rare. Individual cases of immediate allergic reactions (anaphylactic shock) are described in medical literature.

Very rare cases of involvement of the peripheral nervous system (mono- and polyneuritis, neuropathy, Guillain-Barré syndrome) are also reported in medical literature.

Benefit for the individual and the population

Diphtheria is still present in many regions of the world and individual cases are imported to Germany. There have been far more than 200,000 cases leading to more than 5,000 deaths in the states of the former Soviet Union since 1988. After this outbreak, there were also reports of cases in Germany again. Since less than 2/3 of the population in Germany are adequately protected, vaccination has highest priority. Only vaccination effectively prevents the disease by providing effective protection. Vaccination coverage of more than 80% of the population may prevent the spread of diphtheria.

Who should be vaccinated

Diphtheria vaccination is recommended for everybody. Especially individuals who are at an increased risk should pay special attention to adequate protection. This includes individuals from endemic regions who live or work in institutions, travelers to regions with endemic diphtheria, individuals who are professionally exposed to diphtheria or who, being exposed to a lot of public, are an increased risk.

*** This information is continuously reviewed and updated with the most recent knowledge.**

Further information: Your physician