

WHO LEAFLET

DESCRIPTION

Boostrix suspension for injection
Diphtheria, tetanus and pertussis (acellular, component) vaccine (adsorbed, reduced antigen(s) content)

One dose (0.5 ml) contains:

Diphtheria toxoid¹ not less than 2 International Units (IU) (2.5 Lf)

Tetanus toxoid¹ not less than 20 International Units (IU) (5 Lf)

Bordetella pertussis antigens

Pertussis toxoid¹ 8 micrograms

Filamentous Haemagglutinin¹ 8 micrograms

Pertactin¹ 2.5 micrograms

¹ adsorbed on aluminium hydroxide, hydrated (Al(OH)₃) 0.3 milligrams Al³⁺

and aluminium phosphate (AlPO₄) 0.2 milligrams Al³⁺

Excipients: sodium chloride, water for injections

The vaccine may contain traces of formaldehyde which is used during the manufacturing process (see *Contraindications*).

ADMINISTRATION

Boostrix is for deep intramuscular injection, preferably in the deltoid region (see also section *Precautions and Immunisation schedule*).

Boostrix is a turbid white suspension. Upon storage, a white deposit and clear supernatant can be observed. This is a normal finding.

Prior to vaccination, the vaccine should be well shaken in order to obtain a homogeneous turbid white suspension and visually inspected for any foreign particulate matter and/or variation of physical aspect prior to administration. In the event of either being observed, do not administer the vaccine.

Any unused product or waste material should be disposed of in accordance with local requirements.

IMMUNISATION SCHEDULE

Boostrix is indicated for booster vaccination against diphtheria, tetanus and pertussis of individuals from the age of four years onwards.

Boostrix is also indicated for passive protection against pertussis in early infancy following maternal immunisation during pregnancy (see sections *Pregnancy and lactation* and *Pharmacological properties*). The administration of Boostrix should be based on official recommendations.

A single 0.5 ml dose of the vaccine is recommended.

Boostrix can be given in accordance with the current local medical practices for booster vaccination with reduced-content combined diphtheria-tetanus vaccine, when a booster against pertussis is desired.

Boostrix can be administered to pregnant women during the second or the third trimester in accordance with official recommendations (see sections *Pregnancy and lactation* and *Pharmacological properties*).

Boostrix may also be administered to adolescents and adults with unknown vaccination status or incomplete vaccination against diphtheria, tetanus and pertussis as part of an immunisation series against diphtheria, tetanus and pertussis. Based on data in adults, two additional doses of a diphtheria and tetanus containing vaccine are recommended one and six months after the first dose to maximize the vaccine response against diphtheria and tetanus.

Repeat vaccination against diphtheria, tetanus and pertussis should be performed at intervals as per official recommendations (generally 10 years).

Boostrix can be used in the management of tetanus prone injuries in persons who have previously received a primary vaccination series of tetanus toxoid vaccine. Tetanus immunoglobulin should be administered concomitantly in accordance with official recommendations.

Boostrix may be administered concomitantly with human papilloma virus vaccine with no clinically relevant interference with antibody response to any of the components of either vaccine.

Boostrix can be given concomitantly with meningococcal serogroups A, C, W-135 and Y (MenACWY) conjugate vaccines. Clinical studies in subjects aged 9 to 25 years demonstrated that the immune responses to the tetanus, diphtheria and meningococcal antigens were unaffected. Lower geometric mean concentrations (GMCs) were observed for the pertussis antigens; however, these data do not suggest clinically relevant interference.

Boostrix can be given concomitantly with unadjuvanted inactivated seasonal influenza vaccines. When Boostrix was co-administered with a trivalent inactivated influenza vaccine in subjects aged between 19 and 64 years, clinical data demonstrated that the immune responses to the tetanus, diphtheria, pertussis toxoid (PT) and influenza antigens were unaffected. Lower GMCs were observed for the pertussis filamentous haemagglutinin (FHA) and pertactin (PRN) antigens; however, these data do not suggest clinically relevant interference. No differences were observed in a predefined exploratory cohort when the vaccines were given concomitantly or separately to subjects aged 65 years and older.

Boostrix can be given concomitantly with non-live herpes zoster vaccine. Clinical data in subjects aged 50 years and older demonstrated that the immune responses to the tetanus, diphtheria, PT, FHA and herpes zoster antigens were unaffected. Lower GMCs were

observed for the PRN antigen; however, these data do not suggest clinically relevant interference.

Concomitant use with other inactivated vaccines and with immunoglobulin is unlikely to result in clinically relevant interference with the immune responses. When considered necessary, Boostrix can be administered simultaneously with other vaccines or immunoglobulins.

If Boostrix is to be given at the same time as another injectable vaccine or immunoglobulin, the products should always be administered at different sites.

As with other vaccines, patients receiving immunosuppressive therapy or patients with immunodeficiency may not achieve an adequate response. In these patients, when tetanus vaccine is needed for tetanus prone wound, plain tetanus vaccine will be used.

SIDE EFFECTS

Frequencies per dose are defined as follows:

Very common: $\geq 1/10$

Common: $\geq 1/100$ and $< 1/10$

Uncommon: $\geq 1/1,000$ and $< 1/100$

Rare: $\geq 1/10,000$ and $< 1/1,000$

Very rare: $< 1/10,000$

Clinical trials

Children from 4 to 9 years of age

Infections and infestations

Uncommon: upper respiratory tract infection

Metabolism and nutrition disorders

Common: anorexia

Psychiatric disorders

Very common: irritability

Nervous system disorders

Very common: somnolence

Common: headache

Uncommon: disturbances in attention

Eye disorders

Uncommon: conjunctivitis

Gastrointestinal disorders

Common: diarrhoea, vomiting, gastrointestinal disorders

Skin and subcutaneous tissue disorders

Uncommon: rash

General disorders and administration site conditions

Very common: injection site reactions (including pain, redness and swelling), fatigue

Common: fever ≥ 37.5 °C (including fever > 39 °C),

Uncommon: other injection site reactions (such as induration), pain

Adults, adolescents and children from the age of 10 years onwards

Infections and infestations

Uncommon: upper respiratory tract infection, pharyngitis

Blood and lymphatic system disorders

Uncommon: lymphadenopathy

Nervous system disorders

Very common: headache

Common: dizziness

Uncommon: syncope

Respiratory, thoracic and mediastinal disorders

Uncommon: cough

Gastrointestinal disorders

Common: nausea, gastrointestinal disorders

Uncommon: diarrhoea, vomiting

Skin and subcutaneous tissue disorders

Uncommon: hyperhidrosis, pruritus, rash

Musculoskeletal and connective tissue disorders

Uncommon: arthralgia, myalgia, joint stiffness, musculoskeletal stiffness

General disorders and administration site conditions

Very common: injection site reactions (including pain, redness and swelling), fatigue, malaise

Common: fever ≥ 37.5 °C, injection site reactions (such as injection site mass and injection site abscess sterile)

Uncommon: fever > 39 °C, influenza like illness, pain

Reactogenicity after repeat dose of Boostrix

Data on 146 subjects suggest a small increase in local reactogenicity (pain, redness, swelling) with repeated vaccination according to a 0, 1, 6 months schedule in adults (> 40 years of age).

Subjects fully primed with 4 doses of DTPw followed by a Boostrix dose around 10 years of age show an increase of local reactogenicity after an additional Boostrix dose administered 10 years later.

Post marketing surveillance

Blood and lymphatic system disorders

Rare: angioedema

Immune system disorders

Very rare: allergic reactions, including anaphylactic and anaphylactoid reactions

Nervous system disorders

Rare: convulsions (with or without fever)

Skin and subcutaneous tissue disorders

Rare: urticaria

General disorders and administration site conditions

Rare: extensive swelling of the vaccinated limb, asthenia

CONTRAINDICATIONS

Boostrix should not be administered to subjects with known hypersensitivity to any component of the vaccine or formaldehyde (see section *Description*), or to subjects having shown signs of hypersensitivity after previous administration of diphtheria, tetanus or pertussis vaccines.

Boostrix is contra-indicated if the subject has experienced an encephalopathy of unknown aetiology, occurring within 7 days following previous vaccination with pertussis-containing vaccine. In these circumstances pertussis vaccination should be discontinued and the vaccination course should be continued with diphtheria and tetanus vaccines.

Boostrix should not be administered to subjects who have experienced transient thrombocytopenia or neurological complications following an earlier immunisation against diphtheria and/or tetanus (for convulsions or hypotonic-hyporesponsive episodes, see section *Precautions*).

PRECAUTIONS

As with other vaccines, administration of Boostrix should be postponed in subjects suffering from acute severe febrile illness. The presence of a minor infection is not a contraindication.

Boostrix should under no circumstances be administered intravenously.

Vaccination should be preceded by a review of the medical history (especially with regard to previous vaccination and possible occurrence of undesirable events) and a clinical examination.

If any of the following events are known to have occurred in temporal relation to receipt of pertussis-containing vaccine, the decision to give doses of pertussis-containing vaccines should be carefully considered:

- temperature of $\geq 40.0^{\circ}\text{C}$ within 48 hours of vaccination, not due to another identifiable cause;
- collapse or shock-like state (hypotonic-hyporesponsiveness episode) within 48 hours of vaccination;
- persistent, inconsolable crying lasting ≥ 3 hours, occurring within 48 hours of vaccination;
- convulsions with or without fever, occurring within 3 days of vaccination.

In children with progressive neurological disorders, including infantile spasms, uncontrolled epilepsy or progressive encephalopathy, it is better to defer pertussis (Pa or Pw) immunisation until the condition is corrected or stable. However, the decision to give pertussis vaccine must be made on an individual basis after careful consideration of the risks and benefits.

As with all injectable vaccines, appropriate medical treatment and supervision should always be readily available in case of a rare anaphylactic reaction following the administration of the vaccine.

Boostrix should be administered with caution to subjects with thrombocytopenia or a bleeding disorder since bleeding may occur following an intramuscular administration to these subjects. If in accordance with official recommendations, the vaccine may be administered subcutaneously to these subjects. With both routes of administration, firm pressure should be applied to the injection site (without rubbing) for at least two minutes.

A history or a family history of convulsions and a family history of an adverse event following DTP vaccination do not constitute contraindications.

Human Immunodeficiency Virus (HIV) infection is not considered as a contraindication for diphtheria, tetanus and pertussis vaccination. The expected immunological response may not be obtained after vaccination of immunosuppressed patients.

Extremely rare cases of collapse or shock-like state (hypotonic-hyporesponsiveness episode) and convulsions within 2 to 3 days of vaccination have been reported in DTPa and DTPa combination vaccines.

Syncope (fainting) can occur following, or even before, any vaccination as a psychogenic response to the needle injection. It is important that procedures are in place to avoid injury from faints.

As with any vaccine, a protective immune response may not be elicited in all vaccinees.

Boostrix contains sodium:

This medicine contains less than 1 mmol sodium (23 mg) per dose, that is to say essentially 'sodium-free'.

Pregnancy and lactation

Fertility

No human data from prospective clinical studies are available. Animal studies do not indicate direct or indirect harmful effects with respect to female fertility.

Pregnancy

Boostrix can be used during the second or third trimester of pregnancy in accordance with official recommendations.

For data relating to the prevention of pertussis disease in infants born to women vaccinated during pregnancy, see section *Pharmacological properties*.

Safety data from a randomised controlled clinical trial (341 pregnancy outcomes) and from a prospective observational study (793 pregnancy outcomes), where Boostrix was administered to pregnant women during the third trimester, have shown no vaccine related adverse effect on pregnancy or on the health of the foetus/newborn child.

Safety data from prospective clinical studies on the use of Boostrix or Boostrix Polio (dTpa-IPV vaccine) during the first and second trimester of pregnancy are not available.

Data from passive surveillance where pregnant women were exposed to Boostrix or to Boostrix Polio in the 3rd or 2nd trimester have shown no vaccine-related adverse effect on pregnancy or on the health of the foetus/newborn child. As with other inactivated vaccines, it is not expected that vaccination with Boostrix harms the foetus at any trimester of pregnancy.

Animal studies do not indicate direct or indirect harmful effects with respect to pregnancy, embryonal/foetal development, parturition or post-natal development.

Lactation

The safety of Boostrix when administered to breast-feeding women has not been evaluated.

It is unknown whether Boostrix is excreted in human breast milk.

Boostrix should only be used during breast-feeding when the possible advantages outweigh the potential risks.

Overdose

Cases of overdose have been reported during post-marketing surveillance. Adverse events following overdosage, when reported, were similar to those reported with normal vaccine administration.

Incompatibilities

Boostrix should not be mixed with other vaccines in the same syringe.

PHARMACOLOGICAL PROPERTIES

For this section, see WHO Product Information on the WHO website.

STORAGE

The expiry date is indicated on the label and packaging.

Store in a refrigerator (2°C – 8°C). During transport, recommended conditions of storage must be respected.

Stability data indicate that Boostrix is stable at temperatures up to 37°C for 7 days. At the end of this period Boostrix should be used or discarded. These data are intended to guide healthcare professionals in case of temporary temperature excursion only.

Do not freeze; discard if vaccine has been frozen.

Protect from light.

PRESENTATION

Boostrix: 0.5 ml of suspension in a vial (type I glass) for 1 dose with a stopper (butyl rubber) - pack size of 10.

Not all pack sizes may be marketed.

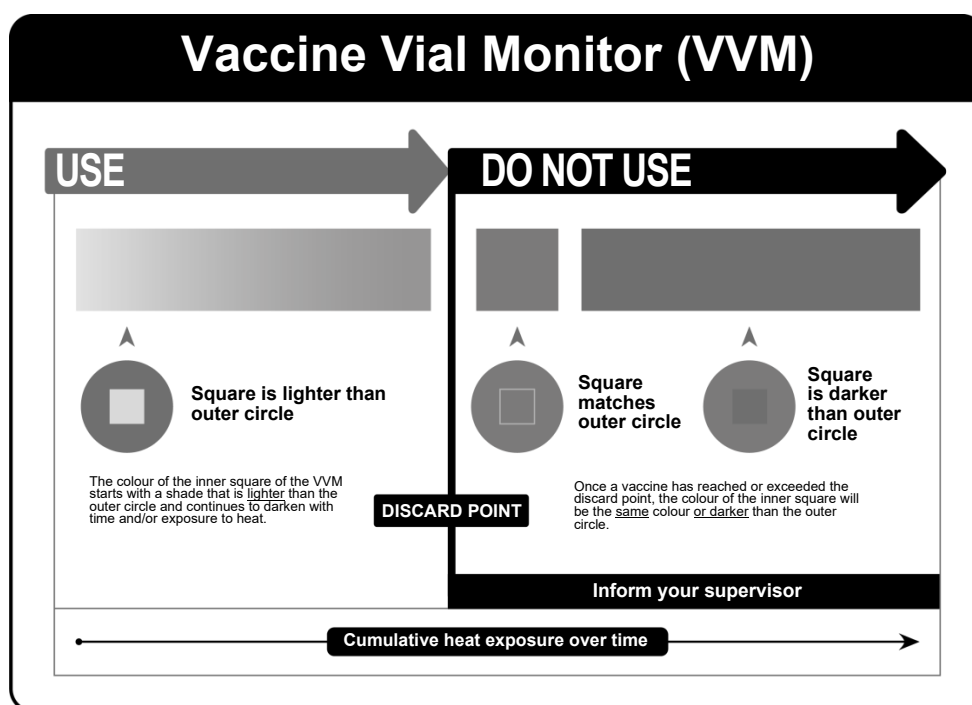
Vaccine Vial Monitor (see VVM infographic at the end of the leaflet)

The Vaccine Vial Monitor (VVM) is part of the label used for all Boostrix batches supplied by GlaxoSmithKline Biologicals. The colour dot that appears on the label of the vial is a VVM. This is a time-temperature sensitive dot that provides an indication of the cumulative heat to which the vial has been exposed. It warns the end user when exposure to heat is likely to have degraded the vaccine beyond an acceptable level.

The interpretation of the VVM is simple. Focus on the inner square. Its colour will change progressively. As long as the colour of this square is lighter than the colour of the outer circle, then the vaccine can be used. As soon as the colour of the inner square is the same

colour as the outer circle or of a darker colour than the outer circle, then the vial should be discarded.

It is absolutely critical to ensure that the storage conditions specified above (in particular the cold chain) are complied with. GlaxoSmithKline Biologicals will assume no liability in the event Boostrix has not been stored in compliance with the storage instructions.



For further information, please contact the manufacturer.

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