SNS COLLEGE OF ALLIED HEALTH SCIENCES

SNS Kalvi Nagar, Coimbatore - 35

Affiliated to Dr MGR Medical University, Chennai

DEPARTMENT: ALLIED HEALTH SCIENCES

COURSE NAME: PEADIATRIC

Topic:Vaccinations

BCG- Bacillus Calmette-Guérin

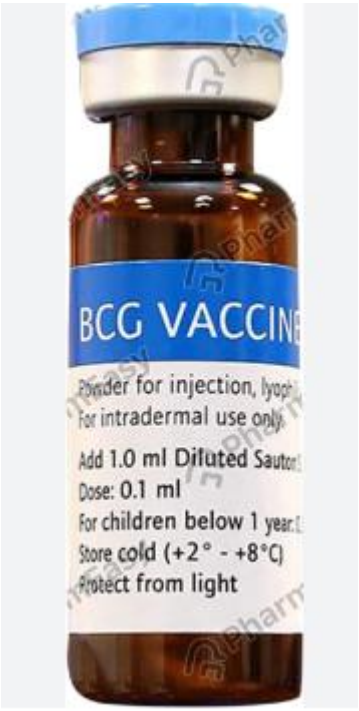
Bacillus Calmette-Guérin (BCG) is the live attenuated vaccine form of Mycobacterium bovis used to prevent tuberculosis and other mycobacterial infections. The vaccine was developed by Calmette and Guérin and was first administered to human beings in 1921. BCG is the only vaccine against tuberculosis.

Contents-The BCG vaccine is derived from M. bovis. More than 55 species of environmental mycobacteria are known, half of which may cause disease in humans. The prevalence of environmental mycobacteria is higher in hot than in cold climates.

- **Efficacy**-high efficacy of 70%–80% against childhood tuberculosis, namely meningitis and miliary tuberculosis
- **Storage**-The intact vials of BCG VACCINE should be stored refrigerated at 2–8°C (36–46°F). This agent contains live bacteria and should be protected from direct sunlight.
- **Dosage**-Child: 0.05 ml single dose as soon after birth as possible
- If child is over one year old: 0.1 ml single dose
- **Route&Site**-intradermal injection into the external face of the left upper arm

Contraindication & Adverse effect

- Do not administer to patients with immunodeficiency (symptomatic HIV infection, immunosuppressive therapy, etc.) and malignancy
- Vaccination should be postponed in the event of evolutive extensive dermatosis, acute complicated malnutrition (vaccine should be given just before the child is discharged from the nutrition centre) and severe acute febrile illness (minor infections are not contra indications).
- Clean the injection site with boiled and cooled water and allow drying. Do not use antiseptics (risk of inactivation of live vaccine).
- Do not mix with other vaccines in the same syringe (inactivation of vaccines).
- If administered simultaneously with EPI vaccines, use different syringes and injection sites.
- **Pregnancy**: CONTRA-INDICATED
- **Breast-feeding**: no contra-indication



DIPHTERIA-TETANUS-PERTUSSIS VACCINE (DTP)

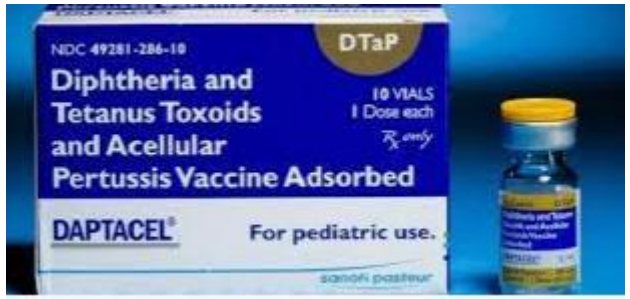
. The **DPT vaccine** or **DTP vaccine** is a class of combination vaccines against three infectious diseases in humans: diphtheria, pertussis (whooping cough), and tetanus.

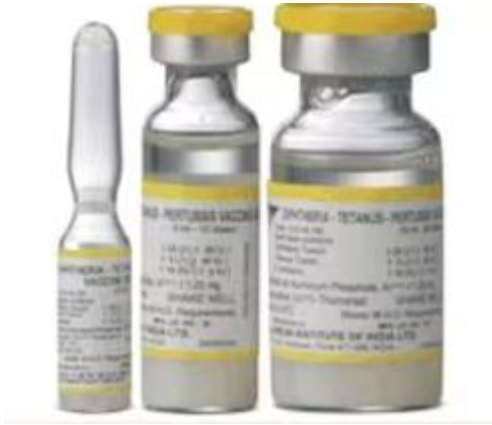
Contents-The vaccine components include diphtheria and tetanus toxoids and either killed whole cells of the bacterium that causes pertussis or pertussis antigens

- **Efficacy**-A complete vaccine series has a clinical efficacy of virtually 100% for tetanus and 97% for diphtheria. A complete series is 3 doses for people 7 years or older and 4 doses for children younger than 7.
- **Storage**- Between 2 °C and 8 °C. Do not freeze.
- **Dosage**-Child: 0.5 ml per dose
- Primary vaccination: 3 doses 4 weeks apart, preferably before the age of 6 months. It is recommended to administer the 1st dose at 6 weeks of age, the 2nd dose at 10 weeks of age and the 3rd dose at 14 weeks of age. If a child has not been vaccinated at 6 weeks of age, start vaccination as soon as possible.
- Booster: one dose between 12 and 23 months
- **Route&Site**-Suspension for injection in multidose vial, for IM injection into the anterolateral part of the thigh in children < 2 years and in the deltoid muscle in children ≥ 2 years
  DO NOT ADMINISTER INTO THE GLUTEAL MUSCLE.

Contraindication & Adverse effect

- Do not administer in the event of allergic reactions to a previous dose of DTP vaccine or evolving neurological disease (encephalopathy, uncontrolled epilepsy).
- Vaccination should be postponed in the event of severe acute febrile illness; minor infections are not contra-indications.
- May cause: mild local reactions (redness and pain at the injection site), fever, fatigue, malaise; rarely: anaphylactic reactions, seizures.
- Respect an interval of 4 weeks between each dose of primary vaccination.
- If administered simultaneously with other vaccines, use different syringes and injection sites.





ORAL POLIOMYELITIS VACCINE (OPV)

Polio vaccines are vaccines used to prevent poliomyelitis. Two types are used: an inactivated poliovirus given by injection and a weakened poliovirus given by mouth. The World Health Organization recommends all children be fully vaccinated against polio

Contents-OPV consists of a mixture of live attenuated poliovirus strains of each of the three serotypes, selected by their ability to mimic the immune response following infection with wild polioviruses, but with a significantly reduced incidence of spreading to the central nervous system.

- **Efficacy-**A completed polio vaccine series confers high levels of immunity. After three doses of the standard four-dose series of the inactivated polio vaccine, efficacy stands at 99% to 100%.

Storage-For prolonged storage: freeze (– 20 °C).

- After defrosting: between 2 °C and 8 °C for 6 months maximum.
- **Dosage**-one dose = 2 drops (approximately 0.1 ml)

In endemic areas or areas at risk of poliovirus importation, according to WHO recommendations

Child: 4 doses approximately 4 weeks apart, at birth then at 6, 10 and 14 weeks of age

The 4th dose at 14 weeks is administered in combination with a dose of the inactivated poliomyelitis vaccine (IPV).

Other areas

- Child: 3 doses approximately 4 weeks apart, at 6, 10 and 14 weeks of age
- The 3rd dose at 14 weeks is administered in combination with a dose of the inactivated poliomyelitis vaccine (IPV).

Route&Site-Oral suspension in multidose vial, to be administered on the tongue, with dropper

Contraindication & Adverse effect

- Do not administer in the event of severe immunodepression (risk of paralytic poliomyelitis): use the injectable vaccine IPV (asymptomatic HIV infection is not a contra-indication).
- Vaccination should be postponed in the event of severe acute febrile illness (minor infections are not contra-indications).
- May cause (exceptionally): paralytic poliomyelitis.
- In the event of vomiting or diarrhea when the vaccine is administered, give the usual dose followed by an extra dose once gastrointestinal symptoms have improved.
- Respect an interval of at least 4 weeks between each dose.
- **Pregnancy**: no contra-indication
- **Breast-feeding**: no contra-indication

TYPHOID CONJUGATE VACCINE (TCV)

Typbar TCV Vaccine is a typhoid vaccine recommended for the prevention of typhoid fever. Typbar TCV Vaccine works by causing the body to produce its own protection (antibodies) against the bacteria. This vaccine is generally recommended for individuals who are traveling to areas where typhoid fever is common. **Contents**- ypbar TCV consists of the Vi polysaccharide (Vi) of S. Typhi conjugated to a tetanus toxoid (TT) carrier protein [9]. It is administered in a single dose and approved for children 6 months of age and older.

- **Efficacy**- n multiple studies, including randomized, controlled trials, ranging from infants to adults, TCVs have shown 79%–95% efficacy in preventing typhoid fever [12–18], and earlier analysis from this project measured a vaccine effectiveness of 80.2% in our sampled population
- **Storage**- Between 2 °C and 8 °C. Do not freeze. Once opened, store vial between 2 °C and 8 °C for 6 hours maximum.
- **Dosage**- Child and adult: 0.5 ml single dose

Routine vaccination

Child at 9 months or during the 2nd year of life:
one single dose at the same time as other recommended vaccines. Follow national recommendations.

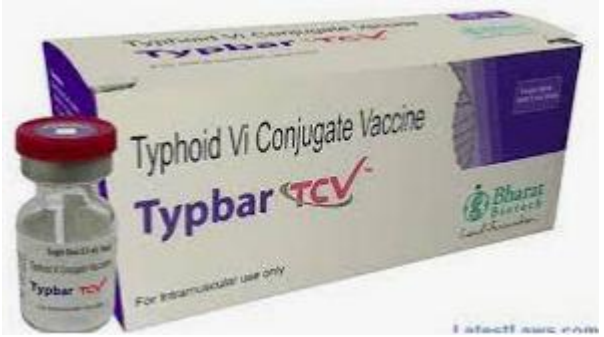
Catch-up vaccination

Child up to 15 years:
one single dose. Follow national recommendations.

- **Route&Site**- Suspension for injection in multidose vial, for IM injection into the anterolateral part of the thigh in children < 2 years and into the deltoid muscle in children ≥ 2 years.
  DO NOT ADMINISTER INTO THE GLUTEAL MUSCLE.

Contraindication & Adverse effect

- Do not administer in case of allergic reactions to any component of the vaccine.
- Vaccination should be postponed in the event of severe acute febrile illness; minor infections are not contra-indications.
- May cause: mild reactions at the injection site (pain, redness at the injection site), fever, headache, myalgia; rarely: anaphylactic reactions.
- If administered simultaneously with other vaccines, use different syringes and injection sites.
- **Pregnancy**: no contra-indication
- **Breast-feeding**: no contra-indication



Reference

- The Text book of Paediatric author Santhosh kumar