

# BCG IMMUNISATION • 1/3

See also **Tuberculosis (investigation and management following exposure in pregnancy) guideline**

## INDICATIONS

- All babies (aged ≤12 months) with a parent or grandparent who was born in a country where the annual incidence of TB is ≥40/100,000
- All babies (aged ≤12 months) living in areas of the UK where the annual incidence of TB is ≥40/100,000. PHE TB Official Statistics 2020 (publishing.service.gov.uk)
- Infants born to families who intend to visit a country of high prevalence and stay for more than one month
- Infants born to a family where a member has required treatment for pulmonary TB in the previous 5 years

BCG vaccine to be given to eligible baby:

- Once aged 28 days
- On receipt of screen negative severe combined immune deficiency (SCID) result (or 'SCID not offered' result)

Details of baby should be emailed to Sarah Philips in children's clinic to book into BCG clinic

### Countries with incidence of TB ≥40/100,000 in 2020

Afghanistan	Ecuador	Korea DPR	Niger	Tajikistan
Algeria	El Salvador	Korea (Rep. of)	Nigeria	Tanzania
Angola	Equatorial Guinea	Kyrgyzstan	Niue	Thailand
Azerbaijan	Eritrea	Lao PDR	Northern Mariana Islands	Timor-Leste
Bangladesh	Eswatini	Lesotho	Pakistan	Turkmenistan
Benin	Ethiopia	Liberia	Palau	Tuvalu
Bhutan	Fiji	Libya	Panama	Uganda
Bolivia	Gabon	Lithuania	Papua New Guinea	Ukraine
Botswana	Gambia	Madagascar	Paraguay	Uzbekistan
Brazil	Georgia	Malawi	Peru	Vanuatu
Brunei	Ghana	Malaysia	Philippines	Venezuela
Burkina Faso	Greenland	Mali	Romania	Vietnam
Burundi	Guam	Marshall Islands	Russia	Yemen
Cambodia	Guinea	Mauritania	Rwanda	Zambia
Cameroon	Guinea-Bissau	Micronesia	Sao Tome and Principe	Zimbabwe
Cape Verde	Guyana	Moldova	Senegal	
Central African Republic	Haiti	Mongolia	Sierra Leone	
Chad	Hong Kong	Morocco	Singapore	
China	India	Mozambique	Solomon Islands	
Congo	Indonesia	Myanmar	Somalia	
Congo DR	Iraq	Namibia	South Africa	
Côte d'Ivoire	Kazakhstan	Nauru	South Sudan	
Djibouti	Kenya	Nepal	Sri Lanka	
Dominican Republic	Kiribati	Nicaragua	Sudan	

<https://www.gov.uk/government/publications/tuberculosis-tb-by-country-rates-per-100000-people>

**Tuberculin testing** not necessary aged <6 yr unless baby has been in recent contact with TB or has resided in high-incidence country for >3 months

## CONTRAINDICATIONS

- SCID screen positive or screen performed and result pending
- Any baby whose parents have not given consent
- Temperature >38°C or acutely unwell
- Severe eczema (give at suitable lesion-free site)
- Baby in household where an active TB case suspected or confirmed, see **Tuberculosis (investigation and management following exposure in pregnancy) guideline**
- Immunodeficient or on high-dose corticosteroids
  - defer BCG until 3 months after stopping corticosteroids if given prednisolone 1 mg/kg/day for >2 weeks, 2 mg/kg/day for 1 week, (or equivalent doses of another corticosteroid, e.g. dexamethasone 150 micrograms = prednisolone 1 mg)
- Maternal immunosuppressive treatment during pregnancy or breastfeeding
  - biologicals e.g. anti-TNFα, postpone BCG until aged 6 months

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- immune-modulation therapy for treatment of COVID in pregnancy e.g. tocilizumab and sarilumab, postpone BCG until aged 6 months
- HIV positive, living in UK
- if mother HIV positive and high risk of HIV transmission [see **Human immunodeficiency virus (HIV)** guideline] and exclusively formula feeding, give vaccine only after baby is confirmed HIV uninfected at aged 12–14 weeks
- if mother HIV positive and very low risk or low risk of HIV transmission [see **Human immunodeficiency virus (HIV)** guideline] BCG can be given to baby when indicated
- if high risk of TB exposure and maternal HIV viral load <50 copies/mL after 36 weeks' gestation, BCG can be given at birth
- encourage maternal HIV testing but do not withhold BCG if mother declines testing unless mother from sub-Saharan Africa, in which case refer to **HIV team** for counselling about testing

## SPECIAL CASES

- No need to delay routine vaccinations
- BCG can be given simultaneously with other vaccines [including rotavirus vaccine oral or palivizumab (Synagis®) IM but not in same arm]
- no further immunisation should be given in arm used for BCG immunisation for ≥3 months due to risk of regional lymphadenitis
- if not given at same time, leave 4 weeks before giving other injectable live vaccines

## PROCEDURE

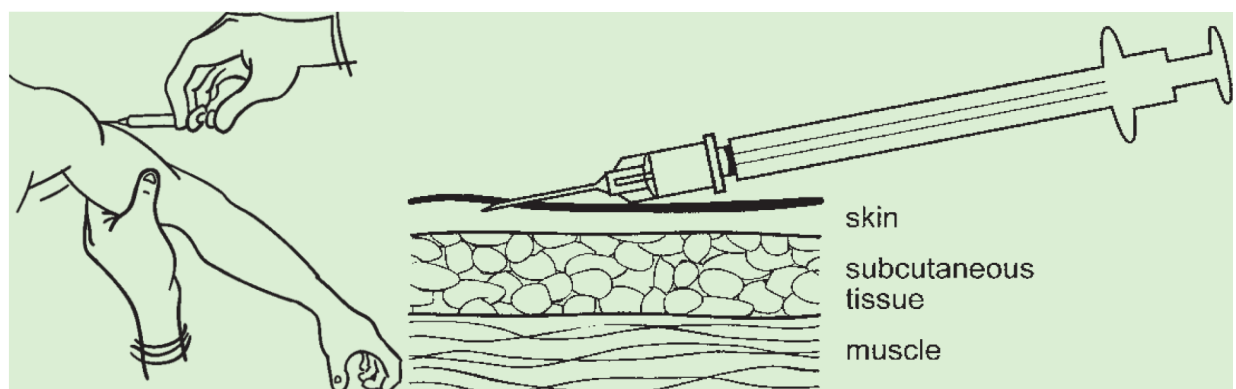
- Dose: 0.05 mL (**Note:** vial contains 20 doses)
- Only to be given by health professional trained in giving BCG vaccine

### Consent

- Midwife to record at booking if risk factor present
- Postnatal check for risk factor
- Ensure baby within inclusion group
- Give mother information on vaccine
- Give appropriate language leaflet **TB, BCG vaccine and your baby**, available from <https://www.gov.uk/government/publications/tb-bcg-and-your-baby-leaflet> order line: 0300 123 1002 or [https://www.orderline.dh.gov.uk/ecom\\_dh/public/home.jsf](https://www.orderline.dh.gov.uk/ecom_dh/public/home.jsf)
- Department of Health guidelines state written consent is not required **but follow local practice**

### Injection

**Only staff trained to give intradermal injections to give BCG**



- Hold arm at 45° to body
- At insertion of deltoid muscle near middle of left upper arm
- If skin is clean, no further cleaning is necessary
- If skin is visibly dirty, clean with soap and water

## **BCG IMMUNISATION • 1/3**

- Stretch skin between thumb and forefinger
- Introduce 26G 'orange' needle bevel upwards approximately 3 mm into superficial layers of dermis almost parallel to skin
- If considerable resistance not felt, remove needle and reinsert before giving more vaccine
- Correctly given intradermal injection results a tense blanched bleb

### **DOCUMENTATION**

- Enter on BCG page in online Child Health Record or in Red Book and tear out yellow copy for Child Health

### **SEQUELAE**

- Scar
  - within 2–6 weeks a small papule will appear
  - sometimes this ulcerates and can ooze
  - site need not be protected from water
  - do not cover with an impervious dressing
  - can take several months to heal
  - occasionally persists as keloid (particularly if given superior to insertion of deltoid)
- Adenitis:
  - a minor degree of adenitis can occur in the weeks following BCG
  - no treatment indicated
- Rare sequelae:
  - local abscess
  - chronic suppurative lymphadenopathy
  - disseminated disease, if immunocompromised
  - osteitis, refer to **infectious diseases specialist**

#### **Refer to paediatric TB team if:**

- Severe local reactions
  - abscesses or drainage at the injection site **or**
  - regional suppurative lymphadenitis with draining sinuses

<b><i>Refer disseminated BCG infection to <b>paediatric TB specialist</b></i></b>
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