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CHILDHOOD TUBERCULOSIS

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ETIOLOGY

- There are 5 closely related mycobacteria in the ***M. tuberculosis* complex**.
 - *M. tuberculosis*, *M. bovis*, *M. africanum*, *M. microti*, and *M. canetti*.
- ***M. tuberculosis*** – Most important cause of Tb in humans
 - Non-spore-forming
 - Non-motile
 - Pleomorphic
 - Weakly gram-positive curved rods 2-4 µm long
 - Obligate aerobes
 - Grow best at 37-41°C
 - Hallmark of all mycobacteria is **acid fastness**

CLINICAL MANIFESTATION

- **PRIMARY INFECTION**

- 1st infection
- Can occur at any age, but commonly before age 5
- The lung is the site in >98% of cases
- On completion, TST usually becomes positive
- Usually asymptomatic
- Low grade fever, malaise and anorexia maybe present
- Erythema nodosum and phlyctenular conjunctivitis possible

- **Primary (Ghon's) focus** – small area of inflammatory exudate at the alveoli where the inhaled bacilli first lodge

- **Primary (Ghon's) Complex** – primary focus + the draining lymphatics + the inflamed regional lymph node

EXTRAPULMONARY TB

- **DTB**

- Most common in infants and young children
- Occurring 2-6 months of primary infection
- Results from haematogenous spread
- Onset of symptoms can be explosive with a fulminant course
- Wt loss, anorexia, low grade fever
- Generalized lymphadenopathy and hepatosplenomegally
- Respiratory manifestations as in PTB
- Symptoms of meningitis and peritonitis in 20-40% of cases

TB AND BCG VACCINATION

- Efficacy for adult pulmonary TB 0-80% in randomised clinical trials
- Best efficacy against serious childhood disease
 - 64% protection against TB meningitis
 - 78% protection against DTB
- BCG important for young children, inadequate as a single strategy