

TB

- MTB: Airborne infection transmitted from person to person via organism-containing droplets
 - Aerobic, nonmotile, non-spore-forming rod
 - Highly resistant to drying, acid, and alcohol

TB

- Granuloma: Epithelioid histocytes including Langhans giant cells surrounded by lymphocytes
- Ghon focus: Primary site of pulmonary TB
- Ranke complex: Ghon focus + affected lymph nodes

Primary

- Upper lobes slightly more than lower
- Infiltrates
- Cavitation rare
- Enlarged LN, rarely bilaterally
- Does not occur in secondary
- Can have large effusion, typically no parenchymal disease, effusion comes on slow and painless, can have enlarged nodes

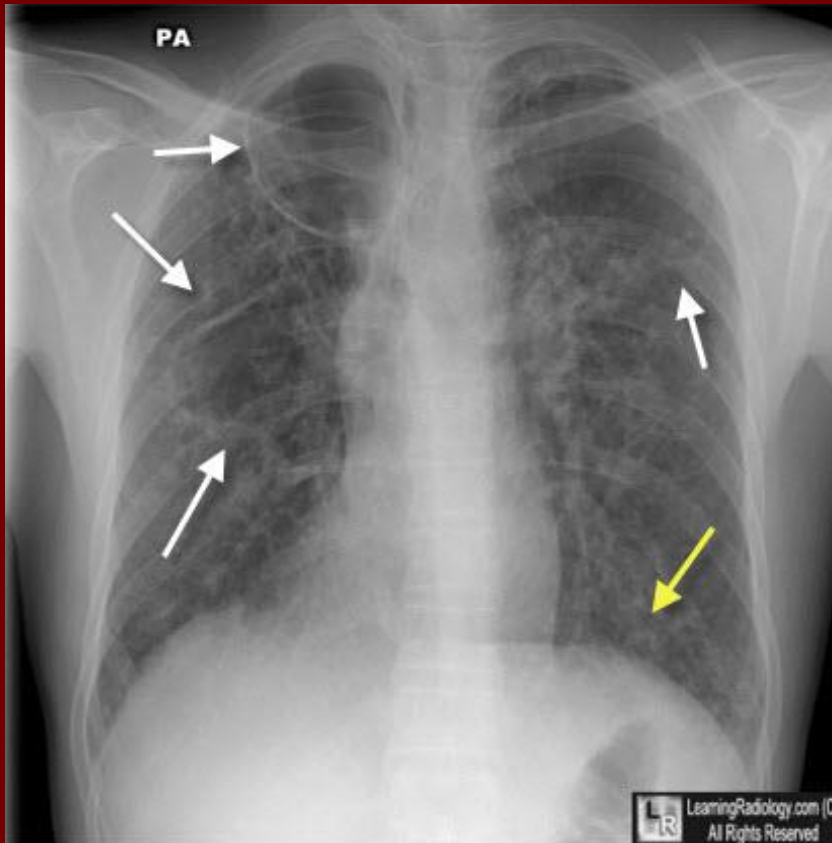
Reactivation

- **Most cases in adults occur as reactivation of a primary focus of infection acquired in childhood**
- Limited mainly to the apical and posterior segments of the upper lobes and the superior segments of the lower lobe
- *Caseous necrosis* and the *tubercle* (accumulations of mononuclear macrophages, Langerhan's giant cells surrounded by lymphocytes and fibroblasts) are the pathologic hallmarks of postprimary TB
- **Healing occurs with fibrosis and contraction; calcification is rarer than in primary**

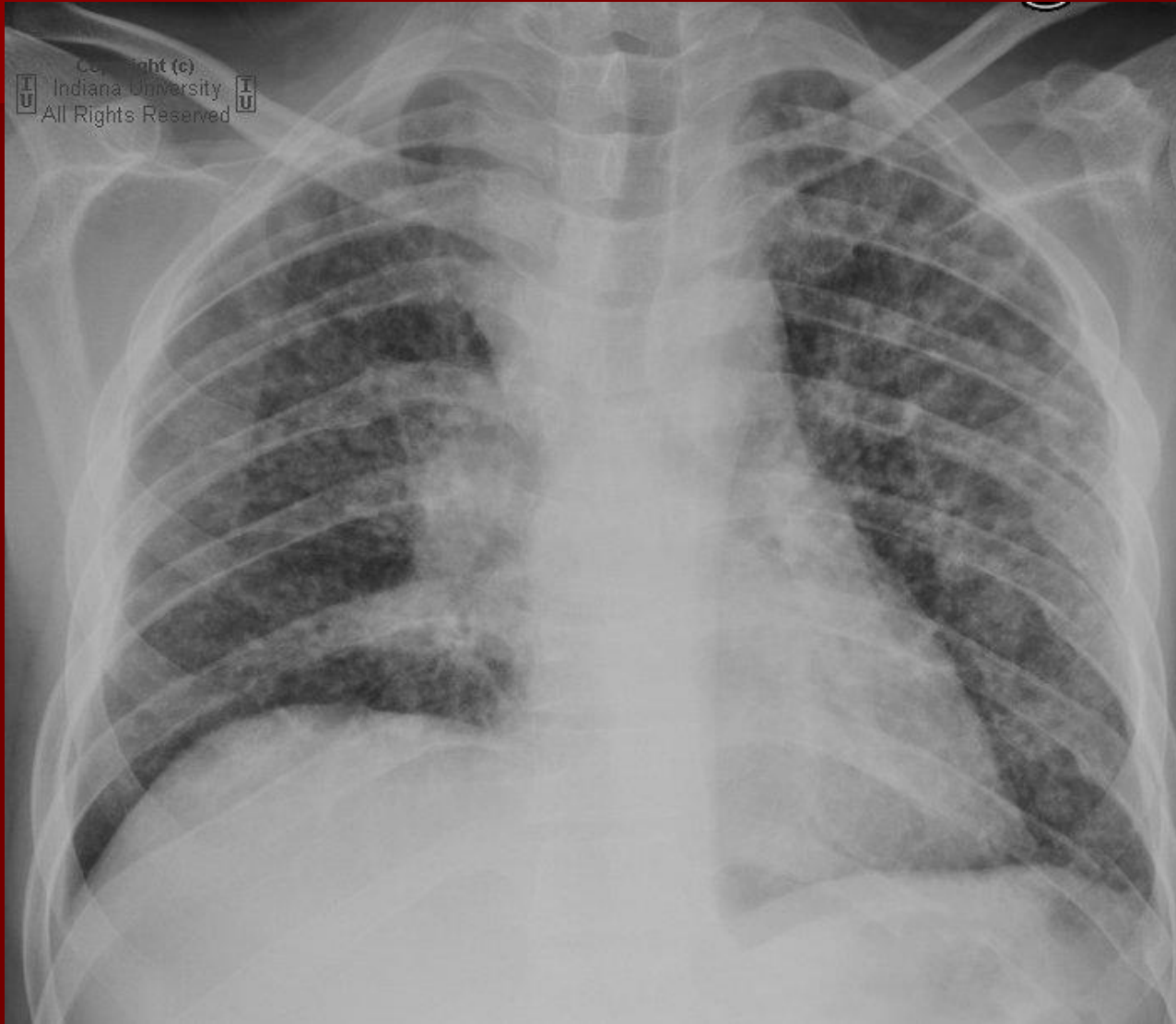
Recurrent TB

- TB occurring **12 months or more after** last clinical encounter for treatment of 1st TB episode
- From reactivation
 - Most cases
 - Determined by MTB genotyping: Same DNA finger-printing between initial and subsequent episodes of infection
- From reinfection
 - ~ 15% of recurrent TB; as high as 60% in certain subpopulations (e.g., immigrants to USA from Africa and Mexico)
 - Determined by MTB genotyping: Different DNA finger-printing between initial and subsequent episodes of infection
 - AIDS endemic areas, reinfection is most common cause of recurrence

Reactivation



Disseminated tuberculosis

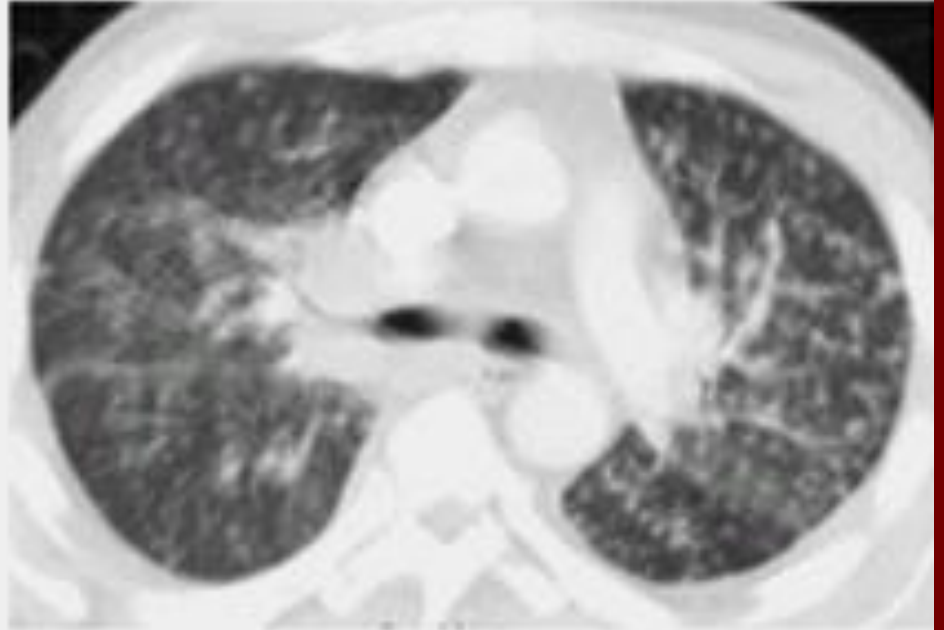
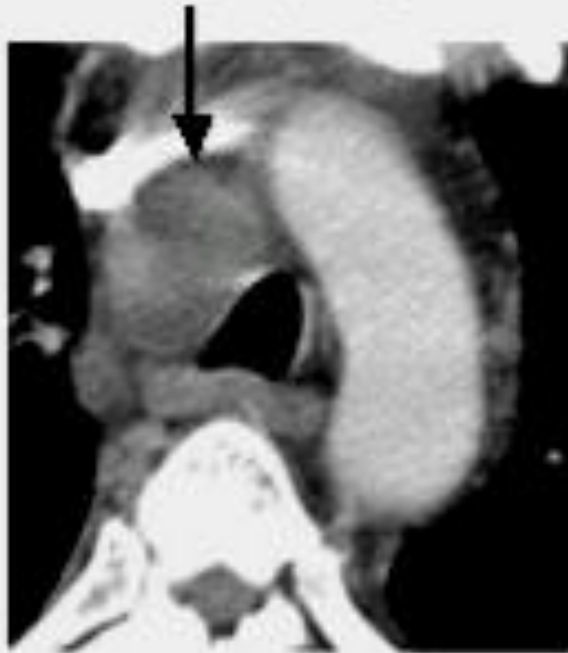


Miliary TB

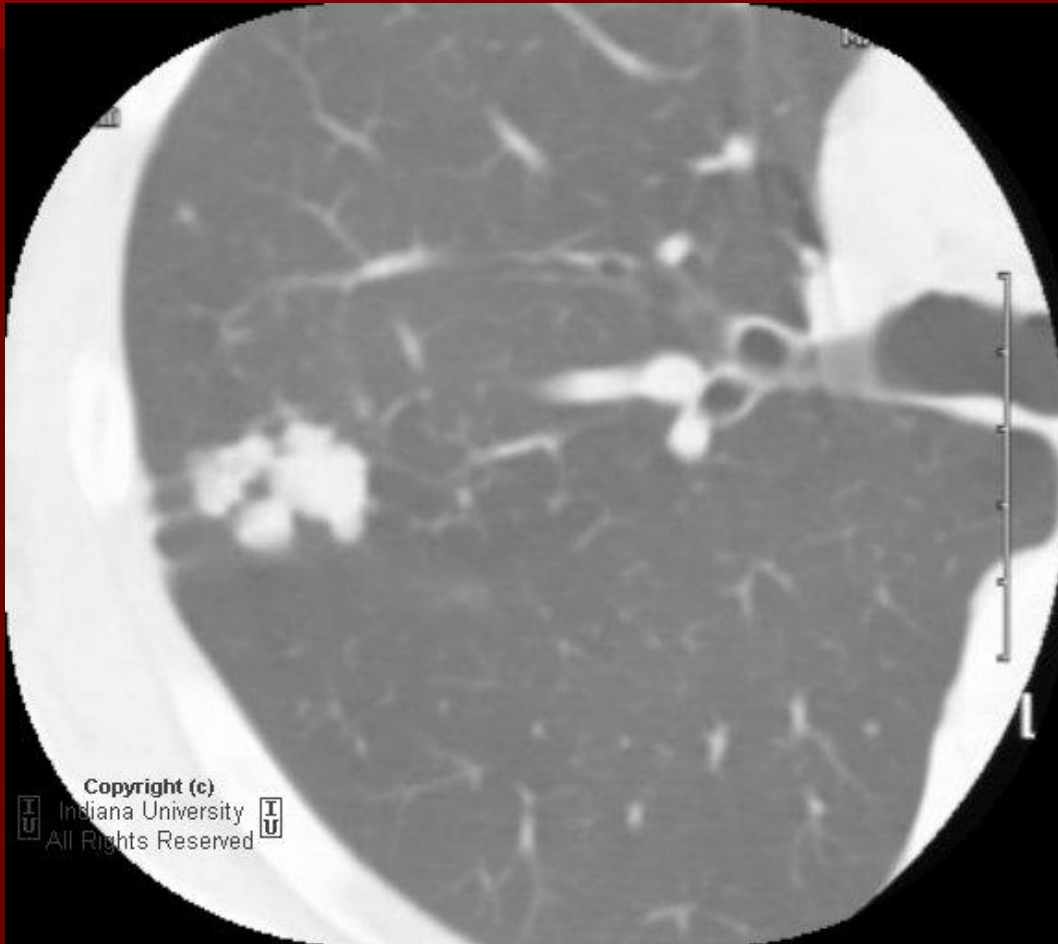
- Older men, Blacks and pregnant women are susceptible
- Onset is insidious
- Fever, chills, night sweats are common
- Takes weeks between the time of dissemination and the radiographic appearance of disease
- Considered to be a manifestation of primary TB—although clinical appearance of miliary TB may not occur for many years after initial infection
- When first visible, they measure about 1 mm in size; they can grow to 2-3mm if left untreated
- **When treated, clearing is rapid—miliary TB seldom, if ever, produces calcification**

Disseminated tuberculosis

Low density Lymph nodes



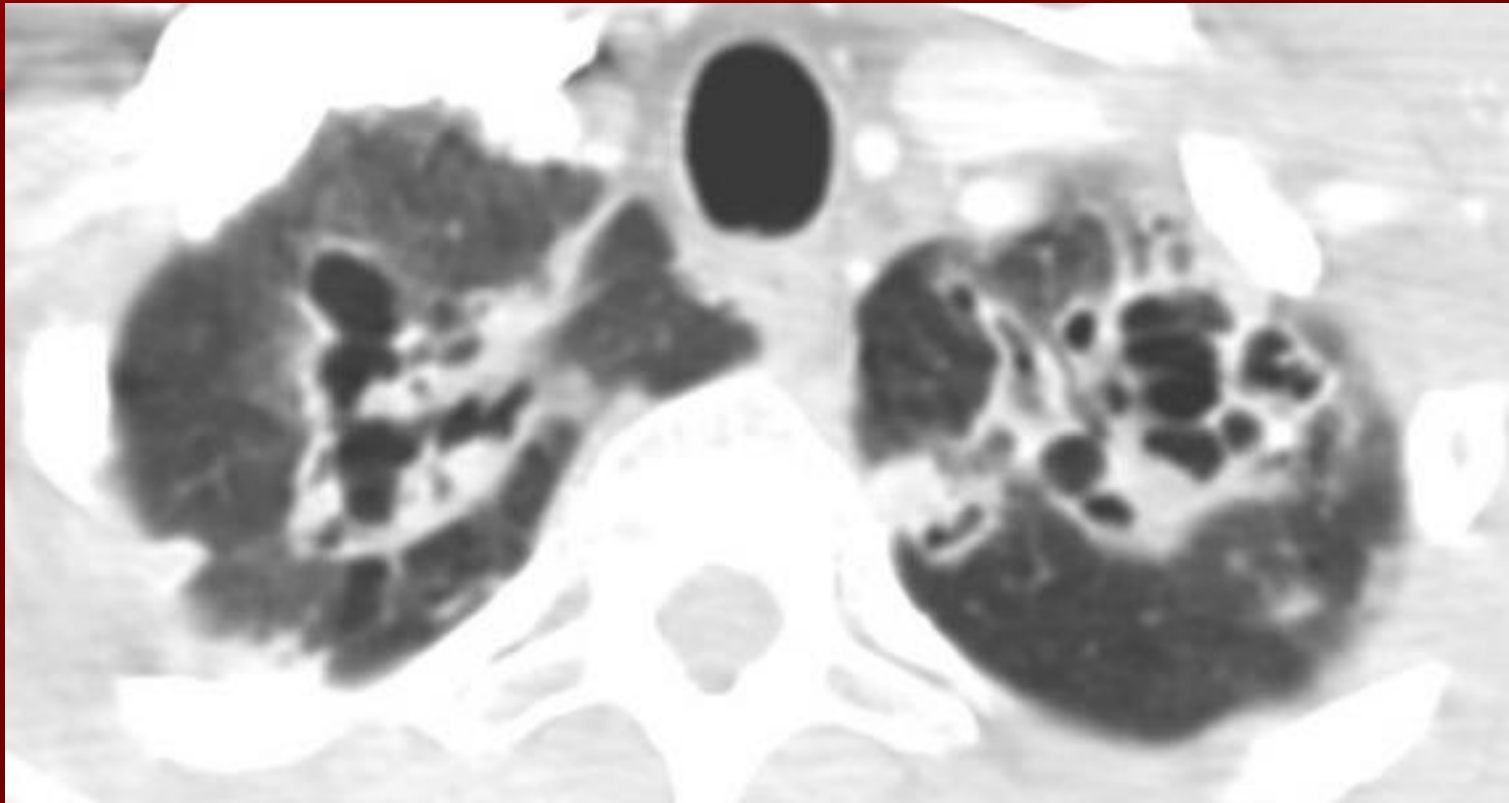
Primary Tb



Other **fungal infections**,
Primary lung cancer with
satellite lesions (**BAC**),
and **primary lymphoma** could
look the same

**satellite lesions – suggest
infection**

TB



Fungal Infection, Cavitory neoplasm, Sarcoidosis, Radiation induced changes (could look like this)