



# **Potential or Existing Health Problems/ Complications and TB Treatment**

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Introduction to TB Nurse Case Management Online Course

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# **Catalina Navarro, BSN, RN has the following disclosures to make**

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- No conflict of interests
- No relevant financial relationships with any commercial companies pertaining to this educational activity



**Potential or Existing  
Health Problems?  
Complications? and TB Treatment**



# Potential Challenges in TB Treatment



# Patients with Special Challenges

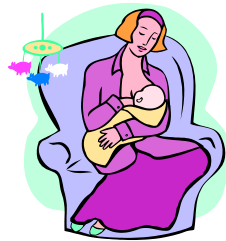
- Children < 5



- HIV



- Pregnancy and breastfeeding



- Hepatitis



- Diabetes



- Drug Resistant



# Patients < 5 years of age

- Educate family about TB
- Introduce Directly Observed Therapy (DOT)
- Prepare family for length of therapy



# Administering Medications to Children

- Given on an empty stomach
- Can be mixed in food
  - ✓ applesauce, flavored syrup, Oreo cookie cream, yogurt, etc.
- Use the smallest amount of food possible



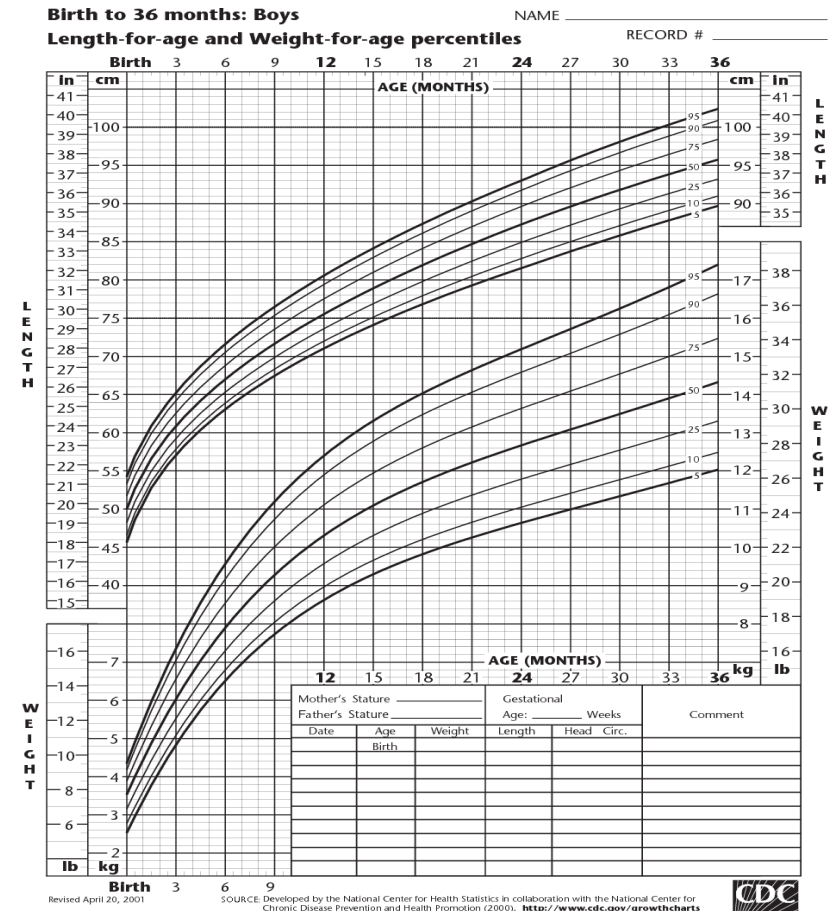
# Other Medication Delivery Tips

- Include the child in the process
- Incentives enhances medication compliance
- After food with med is given, offer it without meds.

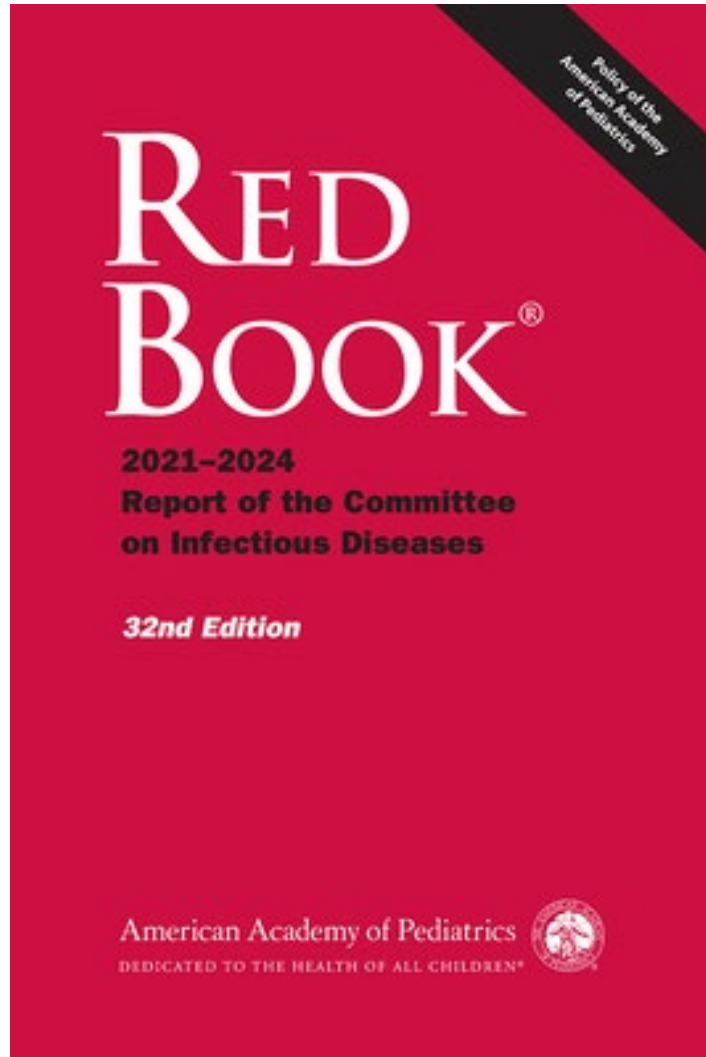


# Keep in Mind...

- Children under TB treatment must be weighed at least every month
- Treatment doses should be adjusted
- Alert parents that RIF turns urine, tears, and stool reddish-orange



# The Red Book



- **What's New in Pediatric TB**
- **Recommendations for IGRA test or TST**
- **TB Infection in kids**
- **Treatment regimens for TB**
- **Doses of TB medications / Rifampin dosing**
- **Drug Resistant**

# The Challenge of Pregnancy and TB



# The Challenge of Pregnancy and TB

- Untreated tuberculosis represents greater hazard to a pregnant patient and their child than the treatment of the disease.
- Low birth weight
- Acquired Congenital TB (Rare?)
- TB treatment should be started if the probability of TB is moderate to high.



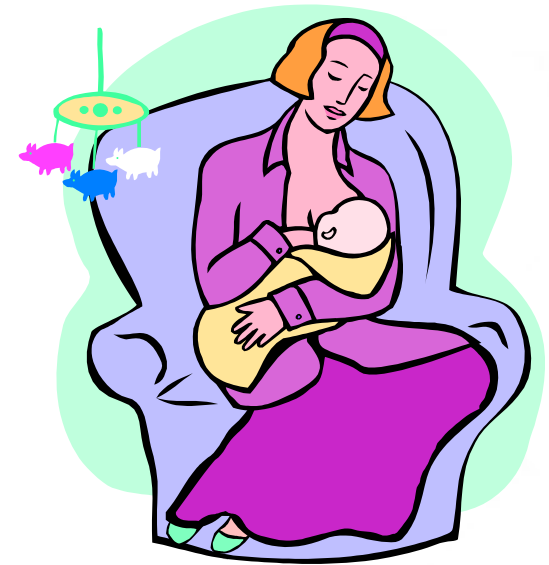
# TB Treatment During Pregnancy

- TB treatment should include:  
INH, RIF, EMB and B6
- PZA not used in USA
- No PZA in the treatment.. minimum **nine** months of Rx



# TB Treatment and Breastfeeding

Breastfeeding should not be discouraged,  
as only small concentrations of these  
drugs are found in breast milk



# Diabetes and TB



# The Effect of Diabetes on the Patient with TB

Always consider the possibility of undiagnosed diabetes in a patient with TB.

- Increased risk of LTBI patients to active disease
- DM may increase the risk of hepatotoxicity while on TB treatment

**DIABETES**  
**B** CNS

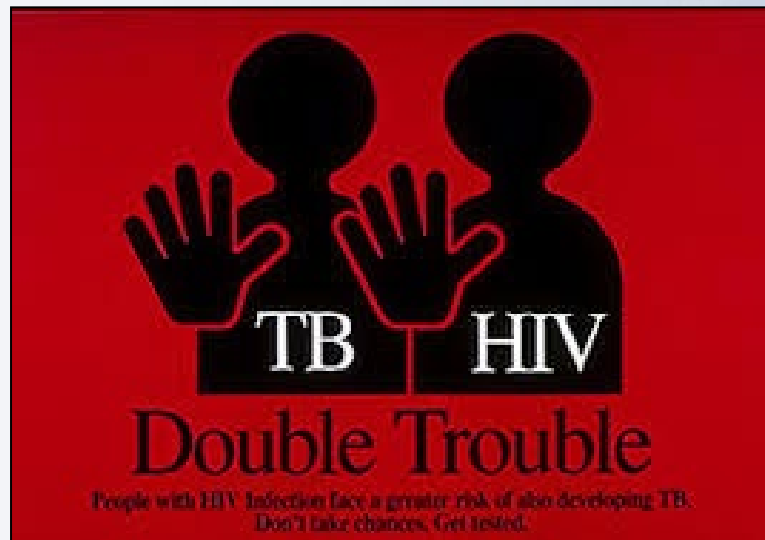


# The Effect of TB on the Diabetic Patient

- TB treatment may cause elevated blood sugars
- May cause hyperglycemia and cause glucose control to worsen
- Diabetic retinopathy may be complicated by EMB therapy
- Diabetic neuropathy may be complicated by INH therapy



# The Challenge of TB/HIV



# The Challenge of TB/HIV

- HIV weakens the immune system
- TB infection (LTBI) can quickly progress to TB disease
- Always assess patient suspected having TB for HIV status
- TST or IGRA may not be reactive
- TST :5 mm induration is positive



# The Challenge of TB/HIV

- Greater risk for extra-pulmonary TB
- Any abnormality on chest x-ray may indicate active TB
- Always check lymph nodes
- Always initiate LTBI treatment to HIV (+) contacts (due to high risk factor)



# The Challenge of TB/HIV

- Some ART (Antiretroviral medications) interact with RIFAMPIN
- Complete medication list (including HIV medication)
- Coordination of care with HIV clinic
- LTBI treatment with 3HP (3 months of Rifapentine/INH) is acceptable REVEING Drug-drug interactions with rifapentine



<https://clinicalinfo.hiv.gov/en/guidelines/adult-and-adolescent-arv/overview>

# IRIS Syndrome

- Immune Reconstitution Inflammatory Syndrome:
  - If patient appears to clinically “worsen”
  - Is paradoxical worsening of an existing infection
  - Immune system recovering
  - Overwhelming inflammatory process
- Educate patient about IRIS
  - “You may feel worse before you feel better”



# TB and Hepatitis



# Consider the risk of Hepatitis

- History of ETOH or illicit drug abuse
- History of IV drug use
- Appearance of body piercings or tattoos

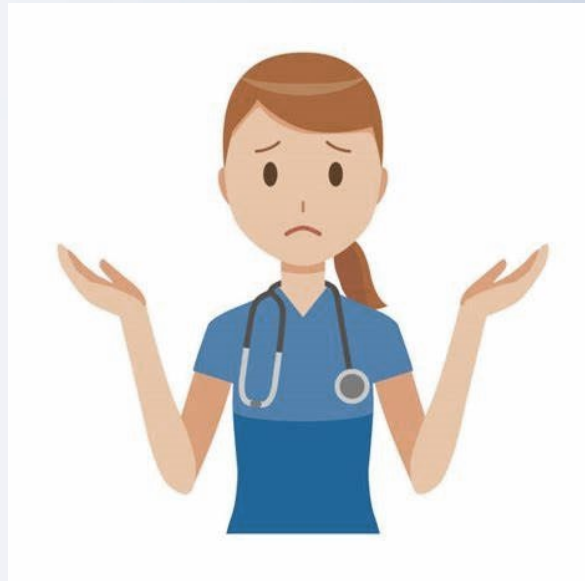


# TB Treatment and Hepatitis

- Baseline monitoring of liver functions
- Consider a liver friendly medication regimen
- Monthly monitoring of liver functions
- May require hospitalization



# The Challenge Drug Resistant TB



# Identifying Drug Resistant TB

- Prior TB treatment
- Foreign born patient
- Not improvement with regular TB treatment
- Contact to a confirm MDR-TB cases (Primary)
- Relapse or treatment failure (acquired drug resistance)



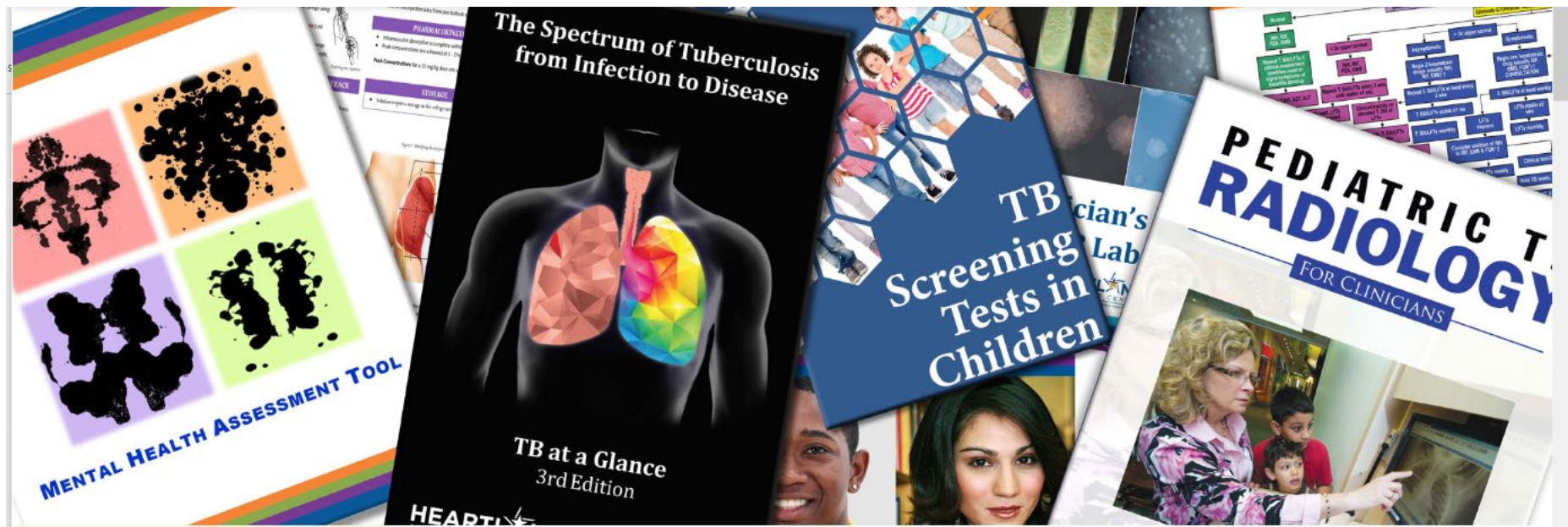
# How to Overcome the Challenge of Drug Resistant TB

- Closely monitor patient for adherence to DOT
- Work closely with TB lab
- Drug resistant cases require a consultation
- Monitor closely for adverse effects of the TB drugs



# Resources

- **Core Curriculum on Tuberculosis**  
Seventh edition 2021



# Thank You!

