



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

- 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

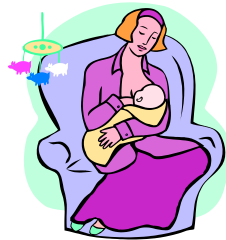
- Children < 5



- 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



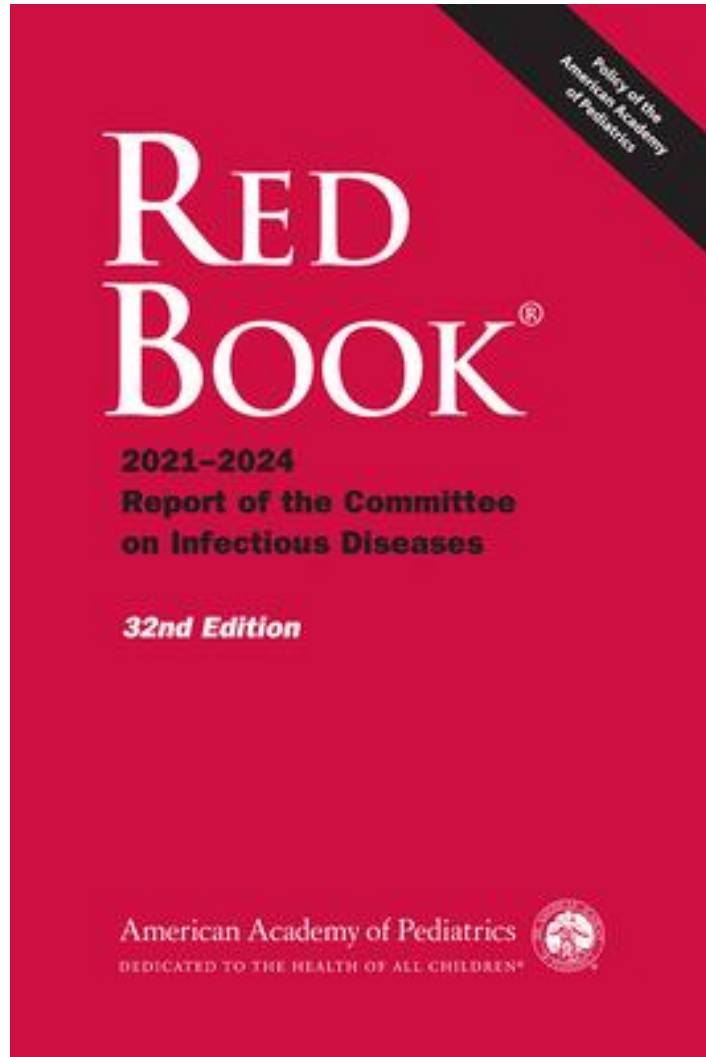
Other Medication Delivery Tips

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



- Birth to 36 months: Boys** NAME _____
- Length-for-age and Weight-for-age percentiles** RECORD # _____
- Length-for-age chart:**
- Y-axis: Length (cm, in). X-axis: Age (months). Percentiles: 5, 10, 25, 50, 75, 90, 95.
- Weight-for-age chart:**
- Y-axis: Weight (kg, lb). X-axis: Age (months). Percentiles: 5, 10, 25, 50, 75, 90, 95.
- Form fields:**
- Mother's Stature _____
Father's Stature _____
Gestational Age: _____ Weeks
Date _____ Age _____ Weight _____ Length _____ Head _____ Circ. _____
Comment _____
- Source:** Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000). <https://www.cdc.gov/growthcharts>
- Revised April 26, 2001**
- CDC**

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.



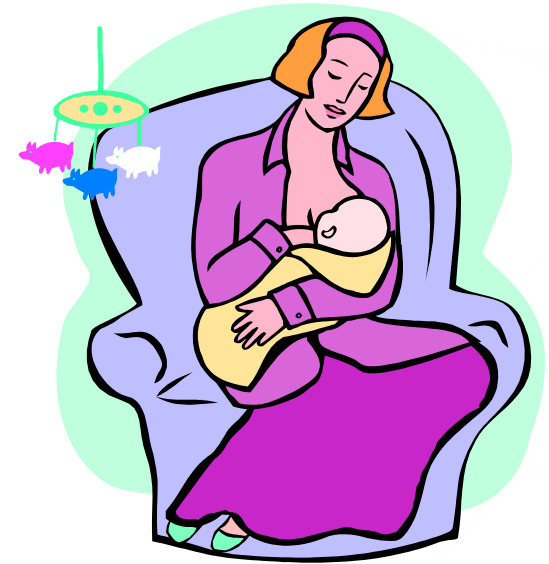
TB Treatment During Pregnancy

- 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

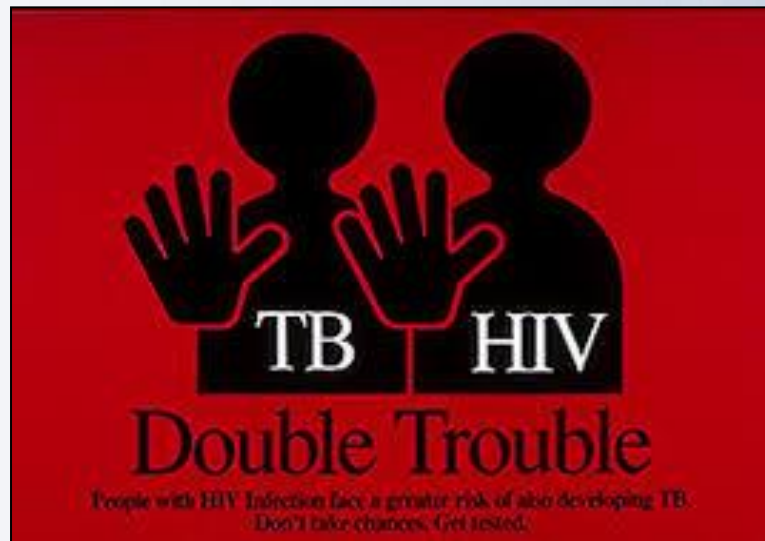


The Effect of TB on the Diabetic Patient

- 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)



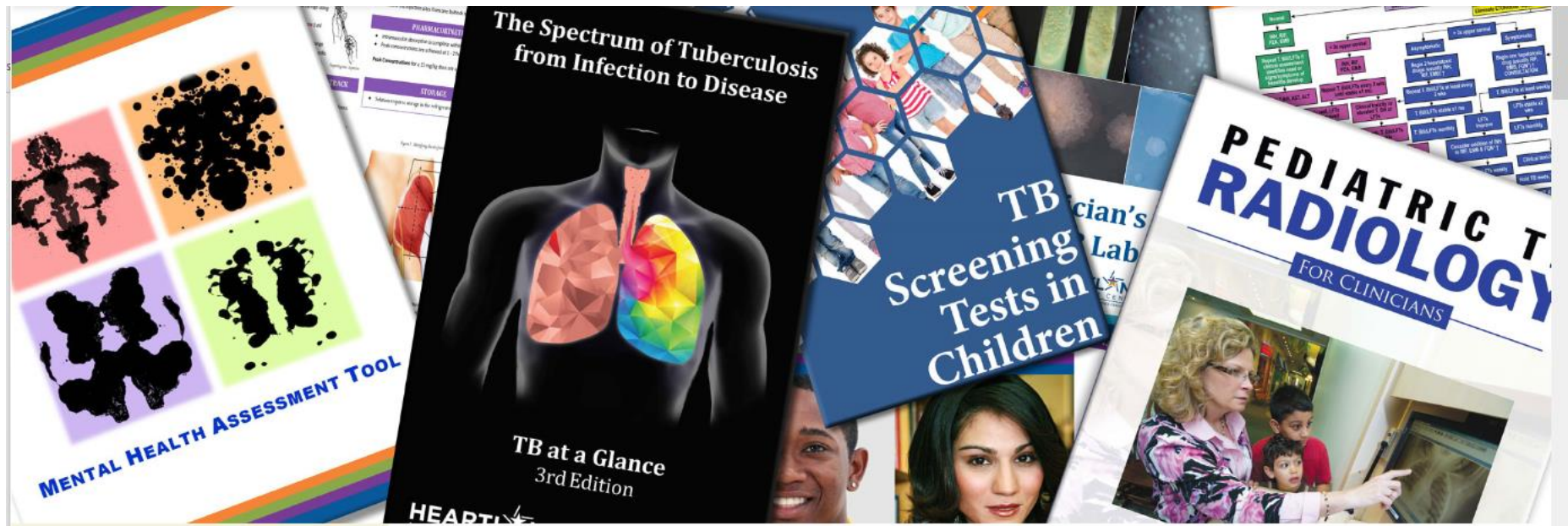
How to Overcome the Challenge of Drug Resistant TB

- 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!

