The Role of the PHN in TB Case Management

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Objectives

- Identify the purpose and roles of TB case management for the Public Health Nurse
- Identify treatment regimens for LTBI
- Identify treatment regimens for TB disease
- State common adverse reactions to drugs used to treat LTBI and TB disease
- Identify those classified as high risk priority for LTBI treatment
Key components of the TB case management process include:

Case finding
Assessment
Problem identification
Plan development

Implementation
Variance analysis
Evaluation
Documentation
Local Health Dept TB Functions

- Case Management
- Contact Investigations
- Collaboration with private medical providers
- Direct Medical Care, at some sites
- Program Evaluation
- TB Surveillance
TB Nurse Case Management

• A strategy health departments can use to manage patient care and help ensure patients successfully complete treatment

• *Successful TB treatment is primarily the responsibility of medical providers and health care workers, not the patient.*

Resource: CDC core curriculum
Case Management

Local health departments are responsible for case management of TB patients. This includes:

a) Primary responsibility for coordinating patient care to ensure that medical, psychological, and social needs are met

b) Assignment of individual or team to be primarily responsible for patient's care
Purpose of Case Management

Assures that:

• Patient is assessed, interviewed, and treatment plan is developed
• Therapy is appropriate and continuous (DOT)
• Response to treatment is monitored
• Patient is educated about disease and treatment
• Isolation is maintained & appropriate
• Contacts are identified, evaluated & treated
• Referral to other services as needed and continuity of care is maintained
Role of Case Manager

1. Patient is educated about TB and its treatment
2. Therapy is appropriate, continuous, and completed
3. Patient's ongoing status and response to therapy is monitored until treatment is complete
4. Contacts are identified, evaluated, referred, and monitored
5. Other urgent health and social needs are addressed
6. Staff have adequate knowledge and skills, and a professional, caring attitude
7. Communication is maintained among all health and social service providers
Summary

Role of a TB nurse Case Manager

• Management services for a TB case/suspect from initiation to completion of treatment.
• Management of individuals with LTBI

Goals of TB Case Management

• Each TB patient receives appropriate therapy
• Prevent progression of TB and drug resistance
• Transmission of TB is prevented with effective CI
• Patient, family and community is educated about TB
Thank you!
TB Treatment

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October 2015
When to Consider Treatment Initiation

• Positive AFB smear
• Treatment should not be delayed because of negative AFB smears if high clinical suspicion:
  – History of cough and weight loss
  – Characteristic findings on chest x-ray
  – Emigration from a high-incidence country
Baseline Diagnostic Examinations for TB

- Chest x-ray
- Sputum specimens (= 3 obtained 8-24 hours apart) for AFB microscopy and mycobacterial cultures
- Routine drug-susceptibility testing for INH, RIF, and EMB on initial positive culture
Other Examinations to Conduct When TB Treatment Is Initiated

- HIV Testing
- Hep B and C tests, if risks present
- Aspartate aminotransferase (AST)
- Alanine aminotransferase (ALT)
- Bilirubin, alkaline phosphatase, serum creatinine, and platelet count
- Visual acuity and color vision tests (when EMB used)
Medication Regimen

- Medications given via directly observed therapy (DOT)
- Rifampin (RIF)
- Isoniazid (INH)
- Pyrazinamide (PZA)
- Ethambutol (EMB)
- Pyridoxine (Vitamin B6)

*Treatment regimen for pansensitive organism & a HIV (-) patient
Treatment Regimens

• Four regimens recommended for treatment of culture-positive TB, with different options for dosing intervals in continuation phase

• Initial phase: standard four drug regimens (INH, RIF, PZA, EMB), for 2 months, \textit{(except one regimen that excludes PZA)}

• Continuation phase: additional 4 months or (7 months for some patients)
When to Extend Continuation-Phase Treatment for 3 Months?

- Cavitary pulmonary disease and positive sputum cultures at completion of initial phase
- Initial phase did not include PZA
- Once-weekly INH and rifapentine started in continuation phase and sputum specimen collected at the end of initial phase is culture positive
- HIV-infected with positive 2-month sputum culture
Treatment of Culture-Positive TB (1)

Initial Phase

2 months - INH, RIF, PZA, EMB daily (56 doses, within 8 weeks)

Continuation Phase

Options:
1) 4 months - INH, RIF daily (126 doses, within 18 weeks)
2) 4 months - INH, RIF twice / week (36 doses, within 18 weeks)
3) 7 months - INH, RIF daily (217 doses, within 31 weeks)*
4) 7 months - INH, RIF twice / week (62 doses, within 31 weeks)*

* Continuation phase increased to 7 months if initial chest x-ray shows cavitation and specimen collected at end of initial phase (2 months) is culture positive
**Treatment of Culture-Positive TB (2)**

**Twice-Weekly Options**
(Rated: AII for HIV-negative, BII for HIV-positive patients*)

### Initial Phase
0.5 months - INH, RIF, PZA, EMB daily (10-14 doses, within 2 weeks)

**THEN**
1.5 months - INH, RIF, PZA, EMB twice / week (12 doses, within 6 weeks)

### Continuation Phase

Options:
1) 4 months - INH, RIF twice / week (36 doses, within 18 weeks)
2) 7 months - INH, RIF twice / week (62 doses, within 31 weeks)

*Regimen rated BII for HIV-positive patients with CD4+ T-lymphocytes cell count >100/µl. Not recommended for those with CD4+ T-lymphocytes cell count < 100/µl*
**Treatment of Culture-Negative TB***

**Initial Phase**

2 months - INH, RIF, EMB, PZA daily (56 doses, within 8 weeks)

**Continuation Phase**

Options:

1) 2 months - INH, RIF daily (56 doses, within 8 weeks)

2) 2 months - INH, RIF twice / week (16 doses, within 8 weeks)

*All cultures are negative, but evaluation at 2 months reveals clinical and chest x-ray response to antituberculosis drug therapy*
Treatment Monitoring (1)

- Monthly sputum for AFB smear and culture (until 2 consecutive cultures negative)
- Serial sputum smears every 2 weeks to assess early response
- Additional drug-susceptibility tests if culture-positive after 3 months of treatment
Treatment Monitoring (2)

• Periodic (minimum monthly) evaluation to assess adherence and identify adverse reactions

• Repeat chest x-ray:
  - At completion of initial treatment phase for patients with initial negative cultures
  - At end of treatment for patients with culture-negative TB
  - Generally not necessary for patients with culture positive TB
Treatment Monitoring (3)

• Renal function, AST, ALT, bilirubin, and platelet count if abnormalities at baseline
• Visual acuity and color vision monthly if EMB used > 2 months or doses > 15-20 mg/kg
Determining Drug Completion (1)

- Completion of treatment is defined by number of ingested doses within a specified time frame

Examples:

1) 6-month daily regimen (7 days/wk) = at least 182 doses of INH and RIF, and 56 doses of PZA

2) 6-month daily regimen (5 days/wk) = at least 130 doses
Determining Drug Completion (2)

Specified doses must be administered
1) Within 3 months for initial phase
2) Within 6 months for 4-month continuation phase

Consider therapy interrupted if target doses not met within specified time period
Management of Initial Phase Treatment Interruptions

- If lapse ≥ 14 days, start from beginning
- If lapse < 14 days, continue treatment to complete total doses warranted (if initial phase can be completed within 3 months)
Management of Continuation Phase Treatment Interruptions

• If patient received $\geq 80\%$ continuation-phase doses and:
  1) sputum AFB smear negative on initial presentation, further therapy not necessary
  2) sputum AFB smear positive on initial presentation, continue to complete full course
Management of Continuation Phase Treatment Interruptions

• If received < 80% continuation-phase doses and:
  1) lapse < 3 months duration, continue to complete full course (as long as all doses can be completed within 6 months)
  2) lapse was 3 months or greater, then start initial phase 4-drug regimen from the beginning
# Adverse Effects of First-Line Drugs

<table>
<thead>
<tr>
<th>Drug</th>
<th>Adverse Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Isoniazid</strong></td>
<td>hepatotoxicity, peripheral neuropathy, CNS effects, lupus-like syndrome, monoamine poisoning</td>
</tr>
<tr>
<td><strong>Rifampin</strong></td>
<td>flu-like syndrome, hepatotoxicity, anemia, thrombocytopenia, renal failure, drug interactions</td>
</tr>
<tr>
<td><strong>Pyrazinamide</strong></td>
<td>hepatotoxicity, polyarthralgia, gout</td>
</tr>
<tr>
<td><strong>Ethionamide</strong></td>
<td>impaired vision, peripheral neuropathy</td>
</tr>
</tbody>
</table>
### Adverse Effects of Second-Line Drugs

<table>
<thead>
<tr>
<th>Drug</th>
<th>Adverse effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aminoglycoside</td>
<td>ototoxicity, nephrotoxicity,</td>
</tr>
<tr>
<td>Cycloserine</td>
<td>neuropsychiatric toxicity, peripheral neuropathy</td>
</tr>
<tr>
<td>Ethionamide</td>
<td>hepatotoxicity, neurotoxicity, hypothyroidism</td>
</tr>
<tr>
<td>Fluoroquinolone</td>
<td>neurotoxicity, tendinitis, hepatotoxicity</td>
</tr>
<tr>
<td>PAS</td>
<td>hepatotoxicity, GI distress, hypothyroidism, coagulopathy</td>
</tr>
</tbody>
</table>
Special Treatment Situations
HIV/AIDS

• Treatment for HIV-positive patients same as for HIV-negative patients, except
  1) Once-weekly INH-rifapentine in continuation phase is contraindicated in HIV-positive patients
  2) Twice-weekly INH-RIF or INH-rifabutin should not be used in patients with CD4+ T-lymphocyte counts less than 100 per microliter (µl)

• Every effort should be made to use a rifamycin-based regimen for the entire course of therapy
Special Treatment Situations (Children and Adolescents)*

- Use DOT
- Treat young children (<5 years old) with three drugs in initial phase (i.e., INH, RIF, and PZA)
- EMB not recommended unless increased likelihood of INH resistance
- Thrice-weekly therapy not recommended
- Recommended duration of treatment is 6 months

* Defined as persons <15 years old
** Defined as upper-lobe infiltration and cavitation associated with sputum production
Special Treatment Situations
Extrapulmonary TB

• Similar treatment regimen for pulmonary TB*
• 6- to 9-month regimens that include INH and RIF are effective
• Corticosteroids used as adjunctive therapy for patients with TB meningitis and pericarditis
• If PZA cannot be used in the initial phase, continuation phase must be increased to 7 months

* Except for central nervous system (CNS) TB, including meningitis; length of therapy is 9-12 months
Special Treatment Situations

Pregnancy and Breastfeeding (1)

- Untreated TB represents greater hazard to a woman and her child than treatment of disease.
- Treatment of pregnant woman with suspected TB should be started if probability of TB is moderate to high.
- Initial phase treatment regimen should consist of INH, RIF, and EMB.
- SM should not be substituted for EMB because of possible teratogenic effects.
- PZA not generally recommended for pregnant women in the United States.
Renal insufficiency complicates management of TB because some antituberculosis medications are cleared by the kidneys.

Dosage should not be decreased because peak serum concentrations may be too low; smaller doses may decrease drug efficacy.

Dosing interval of antituberculosis drugs should be increased.

Most drugs can be given 3 times weekly after hemodialysis; for some drugs, dose must be adjusted.
Special Treatment Situations
Hepatic Disease (1)

• Must consider regimens with fewer hepatotoxic agents for patients with liver disease

• **Recommended regimens:**
  1) Treatment without PZA
     Initial phase (2 months): INH, RIF, and EMB
     Continuation phase (7 months): INH and RIF
  2) Treatment without INH
     Initial phase (2 months): RIF, PZA, and EMB
     Continuation phase (4 months): RIF, EMB, and PZA
3) Regimens with only one potentially hepatotoxic drug
   – RIF should be retained
   – Duration of treatment is 12-18 months

4) Regimens with no potentially hepatotoxic drugs
   – Duration of treatment is 18-24 months
LTBI Treatment

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October 2015
LTBI Treatment

Treatment of LTBI is essential to controlling and eliminating TB disease in the United States, because, it substantially reduces the risk that persons infected with M. *tuberculosis* will progress to TB disease.
Latent TB Infection (LTBI)

- LTBI is the presence (immune response) of *M. Tuberculosis* organisms (tubercle bacilli) in the blood without symptoms or radiologic evidence of TB disease.
Latent TB Infection (LTBI)

- Estimated 5-10 million people with LTBI in the U.S. (4-5% of population)
- Most U.S. cases result from reactivation of LTBI. This is the most infectious form of TB.
- Persons with LTBI are the reservoir of future TB

Adapted from Ann Settgast, MD
March 2010
Targeted Testing

• Targeted testing is a TB Control strategy used to identify and treat persons:

  – At high risk for infection with M. *tuberculosis*

  – At high risk for developing TB disease once infected with M. *tuberculosis*
Targeted Tuberculin Testing

• Detects persons with LTBI who would benefit from treatment

• De-emphasizes testing of groups that are not at high risk for TB

• Can help reduce the waste of resources and prevent inappropriate treatment
Testing for Latent TB Infection

Tuberculin Skin Test (TST)

or

Interferon-Gamma Release Assay (IGRA):

QuantiFeron-TB Gold

Quantiferon-TB Gold-IT (In-tube)

T-SPOT
For Patients with a Positive TST or IGRA

- Screen for TB symptoms
- Medical History and Physical Examination
- Baseline lab testing on an individual basis
- If TB disease is suspected, isolate and begin with the standard 4-drug TB regimen. **DO NOT begin a treatment regimen for LTBI until active disease is ruled out!**
- Obtain a chest x-ray
- If the chest x-ray is abnormal or if the patient has TB symptoms, obtain 3 sputum specimens 8-24 hours apart and treat as a TB suspect until active disease is ruled out.
- Treatment for LTBI should only be initiated if a person has a normal chest x-ray and no TB symptoms.
Before Initiating LTBI Treatment

- Rule out active disease (i.e., wait for culture result if specimen obtained) - Pulmonary or Extrapulmonary.
- Determine prior history of treatment for LTBI or TB disease
- Assess risks and benefits of treatment
- Determine current and previous drug therapy
Pre-treatment Evaluation

• Determine the benefits of treatment by evaluating the individuals risk for developing disease.

• Assess the patients level of commitment to completion of treatment and resources available to ensure adherence.

If the decision is made to treat an individual the health care provider must establish rapport with the patient and
  – Discuss risks and benefits of treatment
  – Review possible medication side effects and drug interactions
  – Emphasize importance of adherence
  – Identify potential barriers to adherence
  – Establish a plan to ensure adherence.
Candidates for the Treatment of LTBI:
Persons with a Positive IGRA result or TST Reaction greater than or equal to 5mm: Highest-Priority Group

✓ HIV-infected persons
✓ Recent contacts of persons with infectious TB
✓ Persons with fibrotic changes on chest radiograph consistent with prior TB disease (once TB disease is excluded)
✓ Patients with organ transplants, and other immunosuppressed patients (including patients receiving the equivalent of 15 mg/day of prednisone for > 1 month, or taking TNF-antagonists)
Candidates for the Treatment of LTBI: Persons with a Positive IGRA result or TST Reaction greater than or equal to 10mm: High-Priority Group

✓ Recent arrivals (<5 years) from high prevalence countries (e.g., most countries in Africa, Asia, Eastern Europe, Latin America, & Russia)
✓ Injection drug users
✓ Residents and employees of high-risk congregate settings (e.g., correctional facilities, nursing homes, homeless shelters, hospitals, and other health care facilities)
✓ Mycobacterium lab personnel
✓ Persons with medical conditions that increase the risk for progression of TB disease. i.e., silicosis, diabetes mellitus, chronic renal failure, certain types of cancer (e.g., leukemias and lymphomas, or cancer of the head, neck or lung), gastrectomy or jejeunal bypass, and weight loss of at least 10% from ideal body weight.
✓ Children younger than 5 years of age; or infants, children and adolescents exposed to adults in high-risk categories.
Candidates for the Treatment of LTBI: Persons with a Positive IGRA result or TST Reaction greater than or equal to 15mm

• People without risk factors generally should not be tested for TB infection. Testing should be targeted to groups at high risk for LTBI and TB disease. However, if a person without any risk factors is tested and has a positive IGRA result or a TST reaction that is greater than 15mm, he or she should be evaluated for LTBI
Close Contacts who have a negative IGRA or TST

Some contacts who have a negative IGRA or TST result should be evaluated for treatment of LTBI after TB disease has been ruled out. These contacts include:

– Children less than 5 years of age
– Immunosuppressed persons
– Those at risk for rapid progression to TB disease once infected

Any contact who is to be treated for LTBI should have a chest radiograph to exclude pulmonary disease before starting treatment.

Close contacts who have a negative IGRA or TST should be retested 8 to 10 weeks after they were last exposed.
HIV-Infected Contacts

• Contacts known or suspected to have other serious immunocompromising conditions should be started on treatment for LTBI regardless of their IGRA or TST result after TB disease has been excluded.
Infants and Young Children

– Because of their age, infants and young children with LTBI are known to have been infected recently, and thus are at a high risk of their infection progressing to TB disease.

– Infants and young children are also more likely than older children to develop life-threatening forms of TB, especially Meningeal and disseminated disease, as they do not have fully developed immune systems.

– A risk factor questionnaire should also be used to initially screen children and adolescents for LTBI. Test for LTBI with a TST only if risk factors are present.
Window Prophylaxis

- Children less than 5 years of age who are close contacts to an adult with infectious TB should receive treatment for LTBI even if the TST result is negative once TB disease is excluded by chest radiograph and symptom review. DOT should be considered for children less than 5 years of age.

- Administer a second TST 8-10 weeks after the last exposure to infectious disease.

- Discontinue window prophylaxis if all of the following conditions are met:
  - Infant is at least 6 months of age
  - Second test is also negative
  - Second test was performed at least 8 weeks after the child was last exposed to the infectious TB disease
LTBI Treatment Options

Choose the best plan of LTBI treatment for your patient based on the following:

- Drug-susceptibility results of the presumed source case (if known)
- Coexisting medical illness
- Potential for drug-drug Interactions
### TABLE 2: Choosing the Most Effective LTBI Treatment Regimen

<table>
<thead>
<tr>
<th>Drug(s)</th>
<th>Duration</th>
<th>Dose</th>
<th>Frequency</th>
<th>Total Doses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Isoniazid (INH)</strong></td>
<td>9 months</td>
<td>Adult: 5 mg/kg</td>
<td>Daily</td>
<td>270</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Children: 10-20 mg/kg*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum dose: 300 mg</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adult: 15 mg/kg</td>
<td>Twice weekly†</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Children: 20-40 mg/kg**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum dose: 900 mg</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Isoniazid (INH) and</strong></td>
<td>6 months</td>
<td>Adult: 5 mg/kg</td>
<td>Daily</td>
<td>180</td>
</tr>
<tr>
<td>Rifapentine (RPT)</td>
<td></td>
<td>Children: Not recommended</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum dose: 300 mg</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Isoniazid (INH) and</strong></td>
<td>3 months</td>
<td>Adult: 15 mg/kg</td>
<td>Twice weekly†</td>
<td>52</td>
</tr>
<tr>
<td>Rifapentine (RPT)</td>
<td></td>
<td>Children: Not recommended</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum dose: 900 mg</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rifampin (RIF)</strong></td>
<td>4 months</td>
<td>Adults and Children 12 years of age and</td>
<td>Once weekly†</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>older: <strong>INH</strong>: 15 mg/kg rounded up to</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>the nearest 50 or 100 mg; 900 mg maximum</td>
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<tr>
<td></td>
<td></td>
<td><strong>RPT</strong>: 10.0–14.0 kg: 300 mg</td>
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<tr>
<td></td>
<td></td>
<td>14.1–25.0 kg: 450 mg</td>
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<tr>
<td></td>
<td></td>
<td>25.1–32.0 kg: 600 mg</td>
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<tr>
<td></td>
<td></td>
<td>32.1–49.9 kg: 750 mg</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>≥50.0 kg: 900 mg maximum</td>
<td></td>
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</tr>
</tbody>
</table>

† Intermittent regimens must be provided via DOT, i.e., health care worker observes the ingestion of medication.

* Isoniazid (INH) is formulated as 100 mg and 300 mg tablets. Rifapentine (RPT) is formulated as 150 mg tablets in blister packs that should be kept sealed until usage.

** The American Academy of Pediatrics recommends an INH dosage of 10-15 mg/kg for the daily regimen and 20-30 mg/kg for the twice weekly regimen.

*** In the United States, the recommended regimen for treatment of LTBI in children is a 9-month course of INH. For the treatment of LTBI in infants, children, and adolescents when INH could not be tolerated or the child has had contact with a patient infected with an isoniazid-resistant but rifampin-susceptible organism the American Academy of Pediatrics recommends 6 months of daily rifampin (RIF) (180 doses) at a dosage of 10-20 mg/kg.
Isoniazid (INH) Treatment Regimen

2 options for treatment with INH

– 9-month regimen
– 6-month regimen (use only if 9-month regimen is not feasible).

The 9-month regimen is preferred over the 6-month regimen because it is proven to be more effective.
12-Dose (Isoniazid and Rifapentine [RPT]) Regimen

- The directly observed 12-dose once weekly regimen of INH and RPT is recommended as an option equal to the standard INH 9-month daily regimen for treating LTBI in:
  - Otherwise healthy people
  - 12 years of age and older
  - Who were recently in contact with infectious TB, or
  - Who had tuberculin skin test or blood test for TB infection conversions, or
  - Those with radiologic findings consistent with healed pulmonary TB.
12-Dose (Isoniazid and Rifapentine [RPT]) Regimen

• The 12-dose regimen can be considered for other groups on a case by case basis.

• The regimen may be used in otherwise healthy HIV-infected persons, 12 years of age and older, who are not on antiviral medications.

• It may also be considered for children aged 2-11 years if completion of 9 months of INH is unlikely and hazard of TB is great.
12-Dose (Isoniazid and Rifapentine [RPT]) Regimen

The 12 dose regimen is NOT recommended for the following individuals:

- Children younger than 2 years of age
- People with HIV/AIDS who are taking antiretroviral therapy (ART)
- People who are presumed to be infected with INH or Rifampin-resistant *M. Tuberculosis*
- Pregnant women, or women expecting to become pregnant while taking this regimen.
Rifampin (RIF) Regimen

• 4-month regimen of RIF can be considered for persons who cannot tolerate INH or who have been exposed to INH-resistant TB. It should not be used to treat HIV-infected persons taking some combinations of ART.
Use of Pyridoxine (Vitamin B6)

- Pyridoxine (25-50mg/day) is recommended for patients treated with INH who are pregnant and in those with a poor diet, seizures or illnesses that predispose neuropathy, such as diabetes, alcohol abuse, malnutrition and HIV infection.
Monthly Monitoring

• Includes: weight check, adherence to prescribed regimen, s/sx of TB disease, clinical monitoring including inquiries about side effects and a physical assessment for signs of adverse events.

• *Isoniazid*- Hepatitis/Hepatotoxicity (nausea, vomiting, abdominal pain, anorexia, yellow eyes/skin, light stools, dark urine) rash, peripheral neuropathy, hypersensitivity, mild CNS effects

• *Rifapentine/Rifampin*- Hepatitis/Hepatotoxicity (nausea, vomiting, abdominal pain, anorexia, yellow eyes/skin, light stools, dark urine), hypersensitivity (rash, dizziness, hypo-tension and flu-like symptoms, such as fever, muscle aches and headache), thrombocytopenia, neutropenia evidenced by easy bruising or bleeding, and orange discoloration of body fluids and soft contact lenses. May interfere with certain medications such as birth control pills or implants, warfarin, methadone treatment.
Choosing The Most Effective LTBI Regimens

- Feasibility of DOT (and frequent monitoring)
- Resources for drug procurement
- Considerations of medical and social circumstances that could affect patient adherence
- Preferences of the patient and prescribing health care provider
Special Considerations in the Treatment of LTBI: Contacts

In general, TST or IGRA-positive contacts who can provide written documentation of prior treatment do not need to be retreated. However, retreatment may be indicated for persons at high risk of becoming re-infected and progressing to TB disease (young children and immunocompromised).
Special Considerations in the Treatment of LTBI: HIV

- **LTBI treatment of HIV-infected persons should be done in consultation with an expert in the management of HIV and TB.**
- HIV–infected individuals receiving ART should be treated with a 9-month regimen of INH.
- Rifampin is contraindicated in HIV-infected persons being treated with certain combinations of antiretroviral drugs.
- HIV-infected individuals who are otherwise healthy and are not taking ART can be considered for the 12-dose regimen.
- If the test for TB infection is negative, consider treatment if HIV-infected person had recent exposure to infectious TB.
Special Considerations in the Treatment of LTBI: Pregnancy

• After TB disease is excluded, consider immediate treatment for LTBI if the woman is HIV infected or a recent contact, and monitor.
• In the absence of risk factors, wait until after the woman has delivered to avoid unnecessary medication during pregnancy.
• INH daily is the preferred regimen
Special Considerations in the Treatment of LTBI: Pregnancy

• Supplementation with 10-25 mg/d of Vitamin B6 is recommended.
• 12 dose regimen is not recommended
• Potential for an increased risk of hepatotoxicity during pregnancy and the first 2-3 months of the post-partum period.
• Consider delaying treatment for LTBI until 2-3 months post-partum unless there is a high risk of progression to TB disease.
Post-Treatment Follow-Up

- Count doses to make sure treatment is completed within the recommended time frame.
- Patient should receive documentation that includes TST or IGRA results, Chest radiograph results, names and dosages of medication and duration of treatment. The patient should be instructed to present this document at any future time TB testing is required.
- Providers should re-educate patient about the signs and symptoms of TB disease and advise them to contact the medical provider if he/she develops any of these signs and symptoms.
- Regardless of whether the patient completes treatment for LTBI, serial or repeat radiographs are not indicated unless the patient develops signs and symptoms suggestive of TB disease.
- Notify prescribing physician that treatment has been completed.
What would be an effective LTBI treatment for this patient...

• 18 y/o Caucasian female
• Targeted testing for college entrance in the health care field
• TST 15 mm
• Worked as a CNA at a local nursing home
• No signs or symptoms of active TB
• Normal CXR
• NKDA

Today is June 1st, classes start August 28th
Summary

Shorter course therapy (RPT-INH) is an effective LTBI regimen and has advantages over standard 9 month INH daily but may also have side effects and needs to be administered by DOT with close monitoring.