

SUMMARY

DECISION SUPPORT

PATIENT EDUCATION/SELF-MANAGEMENT

GOALS

- Prevent Tuberculosis (TB) disease by treating patients with TB infection.
- Encourage patients with untreated TB infection to accept treatment.
- Monitor patients with untreated TB infection to detect TB disease promptly.

ALERTS

- Old fibrotic lesions on chest x-ray (CXR)
- Drug interactions, adverse effects, contraindications.
- Prior adverse reactions to TB infection medications.
- Known hepatic disease, HIV infection, or pregnancy.

DIAGNOSTIC CRITERIA / EVALUATION

- Patients with TB infection:
 - Have either a positive tuberculin skin test (TST) or a positive Interferon-Gamma Release Assay (IGRA) test;
 - Are infected with *Mycobacterium tuberculosis* (MTB) but do not have tuberculosis (TB disease); and
 - Are not infectious and cannot spread MTB to others.
- **Recent TB Infection:** identified in the past 2 years.
- **Remote TB infection:** identified more than 2 years ago.
- Identification of patients with tuberculosis (TB) infection (also known as Latent TB infection or LTBI) is described in the CCHCS TB Surveillance care guide.
- TB infection treatment prevents progression to TB disease; without treatment:
 - Approximately 5% of patients with TB infection will develop TB disease at some time in their lives; 50% of those who progress to disease do so within the first two years after infection.
 - Some medical conditions (e.g., diabetes and HIV infection) increase the risk of progression to TB disease.
- TB Disease must be ruled out prior to initiating treatment for TB infection with:
 - TB sign and symptom screen;
 - CXR; and
 - 3 negative cultures for MTB (IF respiratory specimens are collected, e.g., for patients with old fibrotic lesions).

With any suspicion of TB disease, 3 respiratory specimens must be collected and the cultures must be negative before treatment for TB infection is started.

ALL patients with TB infection should be considered as candidates for TB infection treatment.

Table 1: TB Infection Treatment Candidates

Exposure and Medical Conditions	TST <5 mm	TST ≥5 mm	TST ≥10 mm	IGRA+
Known exposure to a person with TB disease and:				
<ul style="list-style-type: none"> • Immunocompromised, defined as: <ul style="list-style-type: none"> ◦ HIV-infected or unknown HIV status (not tested in the past 6 months); ◦ Treatment with the equivalent of ≥15 mg/day of prednisone for ≥ one month; ◦ Cancer chemotherapy; ◦ TNF alpha antagonist treatment; or ◦ Immunosuppressive treatment for an organ transplant. 	Treat	Treat	Treat	Treat
<ul style="list-style-type: none"> • Not immunocompromised 	Do Not Treat	Treat	Treat	Treat
Unknown Exposure to a person with TB disease and:				
<ul style="list-style-type: none"> • Immunocompromised (as defined above) and no known TB exposure 	Do Not Treat	Treat	Treat	Treat
<ul style="list-style-type: none"> • Old fibrotic lesions and 3 negative respiratory cultures 	Do Not Treat	Treat	Treat	Treat
<ul style="list-style-type: none"> • No immunosuppression and CXR normal or consistent with old healed TB (pleural thickening, calcified nodule or calcified lymph nodes) 	Do Not Treat	Do Not Treat	Treat	Treat

Information contained in the Care Guide is not a substitute for a health care professional's clinical judgment. Evaluation and treatment should be tailored to the individual patient and the clinical circumstances. Furthermore, using this information will not guarantee a specific outcome for each patient. Refer to "Disclaimer Regarding Care Guides" for further clarification.

SUMMARY

DECISION SUPPORT

PATIENT EDUCATION/SELF-MANAGEMENT

MONITORING/FOLLOW-UP

TB INFECTION MONITORING

Patients with TB infection not currently on treatment:

- A. Patients with recent TB infections (documentation of infection within the past 2 years), without documentation of completion of treatment for TB infection, must:
- 1) Be seen by a Registered Nurse (RN) every month for a TB signs/symptoms review, patient education on TB, and encouragement to take TB infection treatment;
 - 2) Have a CXR every 6 months; and
 - 3) Be seen by a RN during their annual TB evaluation and encouraged to take TB infection treatment.
- B. Patients with remote TB infections (documentation of infection more than 2 years ago) without documentation of completion of treatment must:
- 1) Be seen by a RN annually (during their annual TB evaluation) for a TB signs/symptoms review, patient education on TB, and encouragement to take TB infection treatment.
- C. Patients who have completed treatment for TB disease must be seen by an RN annually for TB symptoms screening and TB education.
- D. Patients who have completed treatment for TB infection must be seen by a Licensed Vocational Nurse (LVN) annually for TB disease signs and symptoms.

TABLE 2: FOLLOW UP OF PATIENTS WITH TB INFECTION NOT CURRENTLY ON TREATMENT

When was TB infection?	Status of TB Infection Treatment	Required Follow-up
RECENT INFECTION (≤ 2 YEARS)	- No documentation of TB infection treatment completion - Incomplete TB infection treatment	- Monthly TB signs and symptoms review by an RN, education on TB, and encourage TB infection treatment - CXR every 6 months
REMOTE INFECTION (> 2 YEARS)	- No documentation of TB infection treatment completion - Incomplete TB infection treatment	- Annual RN visit: TB signs and symptoms review, patient education on TB, and encourage TB infection treatment
Anytime	- Documented TB infection treatment completion	- Annual TB signs and symptoms review by LVN

Patients on TB infection treatment:

Table 3 lists the three routinely used TB infection treatment regimens (3 months of INH and Rifapentine [3HP], 4 months of rifampin [4R], and 9 months of INH [9H]). Table 4 provides information on regimen, dosing, drug interactions, and adverse reactions for those receiving standard (preferred) treatment and alternative regimens for treatment of TB infection. Table 5 reviews screening for adverse reactions in patients being treated for TB infection.

A. Provider Evaluation:

- 1) All drug-drug interactions must be evaluated prior to prescribing treatment for TB infection (see Table 4). Patients with signs or symptoms consistent with TB should be worked up for suspect TB and treatment for TB infection should not be resumed until:
 - a) cultures for MTB from three respiratory specimens return negative, and
 - b) the patient is deemed not to have clinically confirmed TB disease.
- 2) The contraindications for Isoniazid and Rifapentine (3HP) are:
 - HIV infection on antiretroviral therapy (ART)
 - Hepatitis C treatment
 - Pregnancy
 - Warfarin (Coumadin) therapy
 - Anti-epileptic drug therapy (phenytoin, phenobarbital, carbamazepine, clonazepam)
 - Hypersensitivity to INH or rifamycins (rifampin, rifabutin)
 - Patients with exposure to INH- or rifampin-resistant MTB

SUMMARY

DECISION SUPPORT

PATIENT EDUCATION/SELF-MANAGEMENT

MONITORING/FOLLOW-UP (CONTINUED)

3) Laboratory tests:

- Patients on any regimen should have baseline liver function tests (LFTs) i.e., AST, ALT, and bilirubin, HIV, HBsAg, and HCV tests.
- Obtain LFTs every month only for patients with: any past adverse reaction to INH or rifampin, abnormal baseline LFTs, HCV or HBV infection, excessive alcohol use, hepatic disease, Dilantin or valproic acid treatment, pregnancy or within 3 months after delivery.
- Laboratory testing should be performed to evaluate possible adverse reactions that occur during the treatment regimen.

4) Mild or moderate adverse effects (rash, dizziness, fever) should be conservatively managed.

(e.g., dizziness can be treated with rest or oral fluids) and TB infection treatment should NOT be discontinued.

5) Discontinue treatment for TB infection if:

- a) An LFT is ≥ 5 times the upper limit of normal even if the patient has no symptoms of hepatotoxicity; or
- b) An LFT is ≥ 3 times the upper limit of normal AND the patient has symptoms of hepatotoxicity.

6) For severe adverse reactions (e.g., hypotension requiring intravenous fluid support), treatment for TB infection should be discontinued and an alternative regimen should be considered.

7) Severe adverse events (e.g., liver injury, metabolic acidosis, anaphylaxis, seizure, severe dermatitis) with hospitalization or death must be reported immediately. Report to the Division of Tuberculosis Elimination by sending an email to LTBldrugevents@cdc.gov and contact the local health department.**Pregnancy:**

After TB disease is excluded, consider treatment for TB infection if the pregnant woman is HIV infected or recently exposed to a person with TB disease. Otherwise, delay initiating treatment for TB infection until 2-3 months post-partum (because of the increased risk of hepatotoxicity through the first 3 months post-partum).

- o Isoniazid (9H) is the preferred regimen; breastfeeding is not a contraindication.

Interrupted Treatment:

Completion of therapy is based on the total number of doses administered - not on the duration of therapy. If treatment is not completed within the recommended timeframe (See Table 3), extend treatment until treatment is completed within the recommended timeframe. After a TB sign and symptom review, physical examination by a health care provider, and when indicated, a CXR and bacteriologic studies to exclude active TB disease must be completed before TB infection treatment is restarted. After a TB infection treatment interruption of more than six months, a CXR is required.

TABLE 3: LTBI TREATMENT REGIMENS

Routine TB infection treatment regimens	Doses	Treatment Frequency	Treatment Duration	Treatment Completion Definition (if treatment is interrupted)
Isoniazid and Rifapentine (3HP) - preferred, including HIV infected not on ART	12	Once weekly	12 weeks	11 doses in 16 weeks
Rifampin (4R) - 2nd choice, preferred for INH-resistant TB infection	120	Daily	4 months	120 doses in 6 months
Isoniazid (9H) - 3rd choice, preferred for pregnant and HIV infected on ART	76	Twice weekly	9 months	76 doses in 12 months

SUMMARY

DECISION SUPPORT

PATIENT EDUCATION/SELF-MANAGEMENT

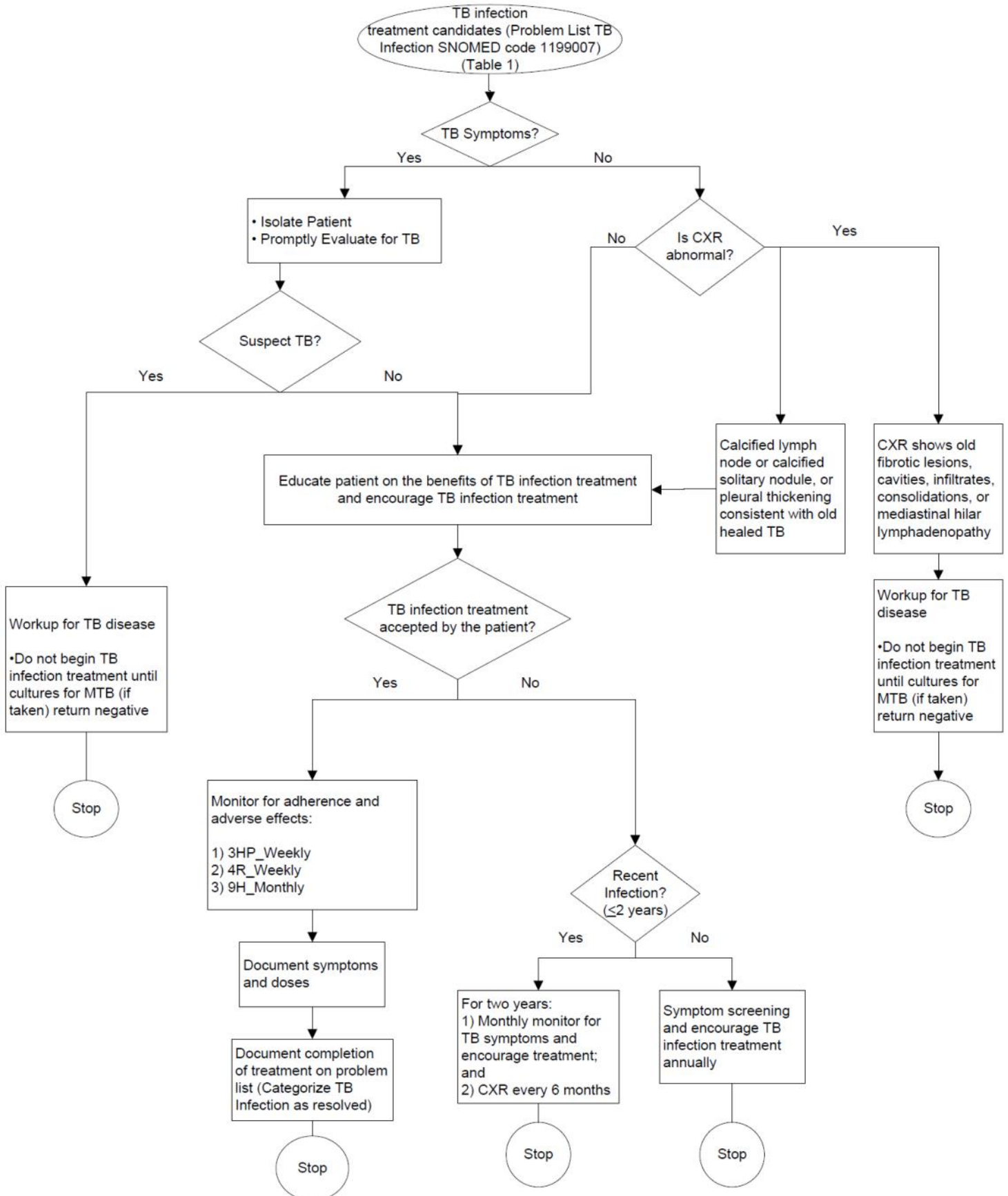
MONITORING/FOLLOW-UP (CONTINUED)**TB INFECTION MONITORING****Patients on TB infection treatment:**

- A. LVNs shall administer TB infection treatment by direct observation (directly observed therapy [DOT]).
- 1) LVNs who identify patients with symptoms of TB or signs or symptoms of an adverse reaction shall refer the patient for a focused assessment by an RN who should report findings promptly to a provider.
Check for: numb hands/feet, headache, seizure, vision decrease, memory loss, appetite loss, nausea/vomiting, yellow skin or eyes, fatigue, weight loss, abdominal pain, brown urine, diarrhea, dizziness, fever or chills, rash or hives, and sore muscles or joints. (See Table 5)
ALERT: If a patient presents with fever, yellow eyes, dizziness, rash, or aches or greater than 1 day of nausea, vomiting, weakness, abdominal pain, or loss of appetite, then TB infection treatment should be discontinued and the patient should be seen by a provider.
- B. Patients shall be seen by an RN weekly or monthly (weekly for 3HP or 4R, monthly for 9H regimen) to:
- 1) Assess for adherence, tolerance to treatment, TB signs or symptoms and adverse effects. (See Table 5)
 - 2) Obtain blood pressure (to assess for hypotension) and weight (to check for weight loss);
 - 3) Review laboratory results (platelets, LFTs) and refer those with abnormal tests to a provider;
 - 4) Educate the patient on TB infection, symptoms of TB disease and adverse drug effects, and encourage the patient to see prompt medical attention if he/she develops symptoms;
 - 5) Encourage the patient to complete treatment for TB infection;
 - 6) Report any findings consistent with TB disease or adverse effects to a provider; and
 - 7) Record treatment completion on the problem list.

Additional Notes:

- Retreatment may be indicated for patients at high risk of becoming re-infected and progressing to TB disease (e.g., immunosuppressed patients).
- With known exposure to TB, a full course of TB infection treatment may be recommended even in the absence of a positive test for TB infection. Consult with CCHCS Public Health Branch regarding the management of such contacts.

TB INFECTION EVALUATION ALGORITHM



SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF-MANAGEMENT
----------------	-------------------------	--

TABLE 4. RECOMMENDED TREATMENT FOR TB INFECTION

Preferred Regimen for Treatment of TB Infection							
Regimen	Isoniazid Dosing		Drug Interactions				
<p>Isoniazid (INH) and Rifapentine (RPT) for 3 months</p> <p>Short name = 3HP</p> <p>1st choice, preferred (if not contraindicated)</p> <p>Both INH and RPT are given <u>once weekly</u> for 12 weeks.</p> <p>Completion = 11 doses in 16 weeks</p> <p>Contraindications are: 1) HIV infection on ART 2) Hepatitis C treatment 3) Pregnancy 4) Warfarin (Coumadin) therapy 5) Anti-epileptic drug therapy (phenytoin, phenobarbital, carbamazepine, clonazepam)</p> <p>6) Hypersensitivity to INH or rifamycins (rifampin, rifabutin)</p> <p>7) Exposure to INH – or rifampin-resistant MTB</p> <p>8) Active hepatitis</p> <p>9) End stage liver disease</p> <p>-----</p> <p>Otherwise healthy patients with HIV infection not on ART <u>can</u> take 3HP.</p>	Kg (Pounds)	Dose of INH	<p>Increases blood levels of phenytoin and disulfiram.</p> <p>Give pyridoxine (B6) 50 mg per dose of INH to prevent INH-associated peripheral neuropathy (may increase pyridoxine if neuropathy occurs).</p>				
	41–46 (89-101)	700 mg	<p style="text-align: center;">Adverse Reactions</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:50%;">Serious</th> <th style="width:50%;">Common</th> </tr> <tr> <td style="vertical-align: top;"> <ul style="list-style-type: none"> - agranulocytosis - aplastic anemia - thrombocytopenia - hepatotoxicity (0.1%) - optic neuritis - peripheral neuropathy (0.2%) - toxic psychosis - seizures - hypersensitivity rxn - pancreatitis - toxic epidermal necrolysis - drug rxn w/ eosinophilia and systemic sx </td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> - paresthesia - nausea - vomiting - epigastric discomfort - elevated ALT, AST (10-20%) - hypersensitivity rxn - pyridoxine deficiency </td> </tr> </table>	Serious	Common	<ul style="list-style-type: none"> - agranulocytosis - aplastic anemia - thrombocytopenia - hepatotoxicity (0.1%) - optic neuritis - peripheral neuropathy (0.2%) - toxic psychosis - seizures - hypersensitivity rxn - pancreatitis - toxic epidermal necrolysis - drug rxn w/ eosinophilia and systemic sx 	<ul style="list-style-type: none"> - paresthesia - nausea - vomiting - epigastric discomfort - elevated ALT, AST (10-20%) - hypersensitivity rxn - pyridoxine deficiency
	Serious	Common					
<ul style="list-style-type: none"> - agranulocytosis - aplastic anemia - thrombocytopenia - hepatotoxicity (0.1%) - optic neuritis - peripheral neuropathy (0.2%) - toxic psychosis - seizures - hypersensitivity rxn - pancreatitis - toxic epidermal necrolysis - drug rxn w/ eosinophilia and systemic sx 	<ul style="list-style-type: none"> - paresthesia - nausea - vomiting - epigastric discomfort - elevated ALT, AST (10-20%) - hypersensitivity rxn - pyridoxine deficiency 						
47–53 (103-116)	800 mg						
≥54 (≥117)	900 mg (max) (three 300 mg tabs)	<p>NOTE: INH is formulated as 100 mg and 300 mg tablets. Roundup to the nearest 50 mg.</p>					
	RPT Dosing	Dose of RPT	Drug Interactions				
	Kg (Pounds)	Dose of RPT	<p>Decreases blood levels of oral contraceptives, warfarin, sulfonyleureas, methadone, steroids, and some antibiotics including fluoroquinolones.</p> <p>Induces cytochromes P4503A4 & P4502C8/9 (less than rifampin).</p> <p>Antiepileptic drug therapy Calcium channel blockers Sulphonylureas (oral hypoglycemics) Clarithromycin/erythromycin Azole antifungals HIV antiretroviral therapy Hepatitis C treatment Anti-rejection medications</p>				
	32.1–49.9 (71-109)	750 mg	<p style="text-align: center;">Adverse Reactions</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:50%;">Serious</th> <th style="width:50%;">Common</th> </tr> <tr> <td style="vertical-align: top;"> <ul style="list-style-type: none"> - neutropenia - leukopenia - thrombocytopenia - hepatotoxicity (0.6%) - interstitial nephritis - hypersensitivity rxn - anaphylaxis - pancreatitis - porphyria exacerbation - <i>C. difficile</i>-assoc. diarrhea </td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> - reddish-orange body fluids - elevated ALT, AST - hyperbilirubinemia - neutropenia - pyuria - proteinuria - hematuria - lymphopenia - urinary casts - rash - pruritus - acne - anorexia - anemia - leukopenia - arthralgia - pain - nausea - vomiting - contact lens staining </td> </tr> </table>	Serious	Common	<ul style="list-style-type: none"> - neutropenia - leukopenia - thrombocytopenia - hepatotoxicity (0.6%) - interstitial nephritis - hypersensitivity rxn - anaphylaxis - pancreatitis - porphyria exacerbation - <i>C. difficile</i>-assoc. diarrhea 	<ul style="list-style-type: none"> - reddish-orange body fluids - elevated ALT, AST - hyperbilirubinemia - neutropenia - pyuria - proteinuria - hematuria - lymphopenia - urinary casts - rash - pruritus - acne - anorexia - anemia - leukopenia - arthralgia - pain - nausea - vomiting - contact lens staining
Serious	Common						
<ul style="list-style-type: none"> - neutropenia - leukopenia - thrombocytopenia - hepatotoxicity (0.6%) - interstitial nephritis - hypersensitivity rxn - anaphylaxis - pancreatitis - porphyria exacerbation - <i>C. difficile</i>-assoc. diarrhea 	<ul style="list-style-type: none"> - reddish-orange body fluids - elevated ALT, AST - hyperbilirubinemia - neutropenia - pyuria - proteinuria - hematuria - lymphopenia - urinary casts - rash - pruritus - acne - anorexia - anemia - leukopenia - arthralgia - pain - nausea - vomiting - contact lens staining 						
	≥50 (≥110)	900 mg (max) (six 150 mg tabs)					
		<p>NOTE: Rifapentine is formulated as 150 mg tablets</p>					

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF-MANAGEMENT
----------------	-------------------------	--

TABLE 4 (CONTINUED) RECOMMENDED TREATMENTS FOR TB INFECTION

Alternative Regimens for Treatment of TB Infection						
Regimen	4R Dosing	Drug Interactions				
<p>Rifampin for 4 months*</p> <p>Short name = 4R</p> <p>2nd choice, for patients exposed to INH-resistant TB, and patients who cannot tolerate INH</p> <p><u>Daily</u> for 4 months</p> <p>*HIV infected patients need 6 months of treatment</p> <p>Completion = 120 doses in 6 months</p> <p>Contraindications: 1) Contraindications 1-6 for 3HP regimen (on page 6) 2) Exposure to rifampin-resistant MTB 3) Active hepatitis 4) End stage liver disease</p> <p>-----</p> <p>IF 4R is preferred over 9H, rifabutin may be substituted for rifampin if indicated (e.g., for HIV infected patients on ART)</p>	<p>10mg/kg (max: 600 mg)</p>	<p>Decreases blood levels of oral contraceptives, warfarin, sulfonyleureas, methadone, steroids, and some antibiotics including fluoroquinolones.</p> <p>Has interactions similar to rifapentine; induces cytochromes P4503A4 & P4502C8/9.</p>				
		Adverse Reactions				
		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:50%; padding: 2px;">Serious</th> <th style="width:50%; padding: 2px;">Common</th> </tr> <tr> <td style="padding: 2px;"> <ul style="list-style-type: none"> - hepatitis - thrombocytopenia - leukopenia - hemolytic anemia - agranulocytosis - hemorrhage - DIC - interstitial nephritis - renal failure - anaphylactic shock - psychosis - porphyria exacerbation - erythema multiforme - Stevens-Johnson syndrome - Toxic epidermal necrolysis - <i>C. difficile</i>-assoc. diarrhea - hepatotoxicity (0.6%) </td> <td style="padding: 2px;"> <ul style="list-style-type: none"> - reddish-orange body fluids - anorexia - nausea/vomiting - headache - elevated ALT, AST - fatigue - drowsiness - dizziness - abdominal pain - diarrhea - hypersensitivity rxn - influenza-like sx - dyspnea - ataxia - vision changes - contact lens staining </td> </tr> </table>	Serious	Common	<ul style="list-style-type: none"> - hepatitis - thrombocytopenia - leukopenia - hemolytic anemia - agranulocytosis - hemorrhage - DIC - interstitial nephritis - renal failure - anaphylactic shock - psychosis - porphyria exacerbation - erythema multiforme - Stevens-Johnson syndrome - Toxic epidermal necrolysis - <i>C. difficile</i>-assoc. diarrhea - hepatotoxicity (0.6%) 	<ul style="list-style-type: none"> - reddish-orange body fluids - anorexia - nausea/vomiting - headache - elevated ALT, AST - fatigue - drowsiness - dizziness - abdominal pain - diarrhea - hypersensitivity rxn - influenza-like sx - dyspnea - ataxia - vision changes - contact lens staining
Serious	Common					
<ul style="list-style-type: none"> - hepatitis - thrombocytopenia - leukopenia - hemolytic anemia - agranulocytosis - hemorrhage - DIC - interstitial nephritis - renal failure - anaphylactic shock - psychosis - porphyria exacerbation - erythema multiforme - Stevens-Johnson syndrome - Toxic epidermal necrolysis - <i>C. difficile</i>-assoc. diarrhea - hepatotoxicity (0.6%) 	<ul style="list-style-type: none"> - reddish-orange body fluids - anorexia - nausea/vomiting - headache - elevated ALT, AST - fatigue - drowsiness - dizziness - abdominal pain - diarrhea - hypersensitivity rxn - influenza-like sx - dyspnea - ataxia - vision changes - contact lens staining 					
Regimen	9H Dosing	Drug Interactions				
<p>Isoniazid for 9 months</p> <p>Short name = 9H</p> <p>3rd choice, preferred for pregnant patients and patients with HIV infection on ART</p> <p><u>Twice weekly</u> for 9 months</p> <p>Completion = 76 doses in 12 months</p> <p>Contraindications: 1) Active hepatitis 2) End stage liver disease 3) Exposure to INH-resistant MTB</p>	<p>15 mg/kg (max: 900 mg)</p> <p>INH is formulated as 100 mg and 300 mg tablets. Round up to the nearest 50 mg.</p>	<p>Increases blood levels of phenytoin and disulfiram.</p> <p>Give pyridoxine (B6) 50 mg daily per dose of INH to prevent INH-associated peripheral neuropathy (may increase pyridoxine if neuropathy occurs).</p>				
		Adverse Reactions				
		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:50%; padding: 2px;">Serious</th> <th style="width:50%; padding: 2px;">Common</th> </tr> <tr> <td style="padding: 2px;"> <ul style="list-style-type: none"> - agranulocytosis - aplastic anemia - thrombocytopenia - hepatotoxicity (0.1%) - optic neuritis - peripheral neuropathy - toxic psychosis - seizures - hypersensitivity rxn - pancreatitis - toxic epidermal necrolysis - drug rxn w/eosinophilia and systemic sx </td> <td style="padding: 2px;"> <ul style="list-style-type: none"> - paresthesia - nausea - vomiting - epigastric discomfort - elevated ALT, AST (10-20%) - hypersensitivity rxn - pyridoxine deficiency </td> </tr> </table>	Serious	Common	<ul style="list-style-type: none"> - agranulocytosis - aplastic anemia - thrombocytopenia - hepatotoxicity (0.1%) - optic neuritis - peripheral neuropathy - toxic psychosis - seizures - hypersensitivity rxn - pancreatitis - toxic epidermal necrolysis - drug rxn w/eosinophilia and systemic sx 	<ul style="list-style-type: none"> - paresthesia - nausea - vomiting - epigastric discomfort - elevated ALT, AST (10-20%) - hypersensitivity rxn - pyridoxine deficiency
Serious	Common					
<ul style="list-style-type: none"> - agranulocytosis - aplastic anemia - thrombocytopenia - hepatotoxicity (0.1%) - optic neuritis - peripheral neuropathy - toxic psychosis - seizures - hypersensitivity rxn - pancreatitis - toxic epidermal necrolysis - drug rxn w/eosinophilia and systemic sx 	<ul style="list-style-type: none"> - paresthesia - nausea - vomiting - epigastric discomfort - elevated ALT, AST (10-20%) - hypersensitivity rxn - pyridoxine deficiency 					

SUMMARY

DECISION SUPPORT

PATIENT EDUCATION/SELF-MANAGEMENT

TABLE 5. TREATMENT OF TB INFECTION: MONITORING FOR ADVERSE REACTIONS

SCREENING FOR ADVERSE REACTIONS			
	3HP Weekly Screening	4R Weekly Screening	9H Monthly Screening
Numb hands/feet	X	X	X
Headache	X	X	X
Seizure	X	X	X
Vision decrease	X	X	X
Memory loss	X	X	X
Appetite loss	X	X	X
Nausea/vomiting	X	X	X
Yellow skin or eyes	X	X	X
Fatigue	X	X	X
Weight loss	X	X	X
Abdominal pain/tenderness	X	X	X
Brown urine	X	X	X
Diarrhea	X	X	
Dizziness	X	X	
Fever or chills	X	X	
Rash or hives	X	X	
Sore muscles or joints	X	X	
Easy bleeding or bruising	X	X	

References

1. California Tuberculosis Controllers Association; CDPH CTCA Joint Guidelines for Coordination of TB Prevention and Control by Local and State Health Departments and California Department of Corrections, 2015.
<https://ctca.org/filelibrary/FinalCorrections2015.pdf>
2. CDC. Prevention and Control of Tuberculosis in Correctional and Detention Facilities: Recommendations from CDC. *MMWR* 2006; 55 (RR-09).
<http://www.cdc.gov/mmwr/PDF/rr/rr5509.pdf>
3. Centers for Disease Control and Prevention. Guidelines for the Investigation of Contacts of Persons with Infectious Tuberculosis, Recommendations from the National Tuberculosis Controllers Association and CDC, United States. *MMWR* 2005; 54 (RR-15).
<http://www.cdc.gov/mmwr/pdf/rr/rr5415.pdf>
4. Management of Tuberculosis Federal Bureau of Prisons Clinical Practice Guidelines January 2010
<http://www.bop.gov/resources/pdfs/tuberculosis.pdf>
5. New Jersey Medical School Global Tuberculosis Institute. Diagnosis and Treatment of Latent Tuberculosis Infection (LTBI).
<http://globaltb.njms.rutgers.edu/downloads/products/ltbidrugcard.pdf>
6. Three Months of Weekly Rifapentine and Isoniazid for Mycobacterium Tuberculosis Infection (PREVENT TB).
<http://www.clinicaltrials.gov/ct2/show/nct00023452?term=rifapentine&rank=9>

SUMMARY

DECISION SUPPORT

PATIENT EDUCATION/SELF-MANAGEMENT

WHAT YOU SHOULD KNOW**WHAT IS TUBERCULOSIS INFECTION?**

TB infection is an infection caused by TB germs. If you have been told you have TB infection, you have spent time close to someone with active TB disease and breathed TB germs into your lungs. The germs can spread into other parts of your body, such as your lungs, bones, or kidneys.

When you have TB infection, the TB germs are alive in your body, but they are not hurting you now.

**WHAT ARE THE SYMPTOMS OF TB INFECTION?**

There are no symptoms for TB infection. The TB germs are dormant in your body, but they could start to grow, spread, and turn into active TB disease. When the germs grow and spread it is called active TB disease. People with active TB disease can get very sick and can spread TB to other people. **This can happen to anyone with TB infection at any time.**

HOW DO I KNOW IF I HAVE TB INFECTION?

A TB skin test or TB blood test will show if you have TB infection or not.

If you are told your TB test is positive you will get a:

1. Chest x-ray (CXR) to see if you have active TB disease in your lungs
2. Physical exam to make sure you don't have active TB disease in other parts of your body

If your health care provider tells you that your CXR is normal and you have no symptoms of active TB disease in your body, you will then be told that you have TB infection.

IS EVERY PERSON WITH TB INFECTION AT RISK OF GETTING ACTIVE TB DISEASE?

All people with TB infection are at risk for the TB germs to spread and grow into active TB disease. Some people have conditions that cause them to be at even higher risk for this to happen. Talk with your health care provider if you have:

- HIV infection
- Other health problems, like diabetes
- Gotten TB infection sometime during the last two years
- Alcohol abuse or illegal drug use
- Taken TB infection medicine before, but did not complete treatment

SUMMARY

DECISION SUPPORT

PATIENT EDUCATION/SELF-MANAGEMENT

WHAT YOU SHOULD KNOW**IF I HAVE TB INFECTION, HOW CAN I PREVENT ACTIVE TB DISEASE?**

If you have TB infection, there are medicines to take for preventing you from getting active TB disease. The TB infection medicines destroy the dormant TB germs before they have a chance to make you sick.

Your health care provider will order TB infection medicine that is best for you. Because the TB germs are strong, you will need to take the TB infection medicine for several months (3–9 months). It is very important to take your medicine and to keep taking it until your health care provider tells you to stop. If you miss too many days or stop taking the pills too soon, you could become sick with active TB disease.

WHY SHOULD I TAKE MEDICINE IF I DON'T FEEL SICK?

TB infection medicine destroys the TB germs in your body before they have a chance to grow, spread, and make you sick.

WHAT SHOULD I KNOW ABOUT MEDICINE FOR TB INFECTION?

Many people take TB infection medicine every day without any problems, but there are a few things you should watch for:

- Fever
- Poor appetite, losing weight, or feeling tired
- Nausea and vomiting
- Pain in your abdomen
- Dark urine (tea or coffee color)
- Yellow skin and eyes
- Skin rash or itching
- Numb or tingling feeling in your hands or feet
- Coughing for more than 2-3 weeks
- Sweating at night



Talk to your health care provider if you have any of these problems.

ISONIAZID and RIFAPENTINE

You have been given medicine to treat your TB infection.

You do not have TB disease and cannot spread TB to others.

This medicine will help you **PREVENT** getting TB disease.



Watch for these Possible Problems:

While on this Medicine:

- Tell your primary care provider if you have questions or concerns with the medicine.
- Go to your weekly clinic visits. You will meet with your primary care nurse weekly to take your medicine. This plan is called Directly Observed Therapy (DOT).

TB Infection Medicine Schedule:

Medicine	Schedule	Day	Number of pills per day	Length of time
Isoniazid & Rifapentine	Once weekly			3 months (12 weeks)

Your primary care provider may have you take vitamin B6 with your medicine.

NOTE: It is normal if your urine, saliva, or tears become orange-colored. Soft contact lenses may become stained.

STOP AND tell your primary care nurse or provider right away if you have any of the problems below:

- Less appetite, or no appetite for food
- An upset stomach or stomach cramps
- Fever
- Head or body aches
- Nausea or vomiting
- Cola-colored urine or light stools
- Easy bruising or bleeding
- Rash or itching
- Yellowing skin or eyes
- Severe weakness or tiredness
- Tingling or numbness in your hands or feet
- Dizziness

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF-MANAGEMENT
---------	------------------	-----------------------------------

ISONIAZID

You have been given medicine to treat your TB infection. You do not have TB disease and cannot spread TB to others. This medicine will help you **PREVENT** getting TB disease.



While on this Medicine:

- Tell your primary care provider if you have questions or concerns with the medicine.
- Go to your planned clinic visits. You will meet with your primary care nurse to take your medicine. This plan is called Directly Observed Therapy (DOT).
- Take all of your medicine as you were told by your primary care provider.

Watch for these Possible Problems:

STOP taking your medicine right away **AND** tell your primary care nurse or provider if you have any of the problems below:

- Less appetite, or no appetite for food
- An upset stomach or stomach cramps
- Nausea or vomiting
- Cola-colored urine or light stools
- Rash or itching
- Yellowing skin or eyes
- Tingling or numbness in your hands or feet

TB Infection Medicine Schedule:

Medicine	Schedule	Day	Number of pills per day	Length of time
Isoniazid	<input type="checkbox"/> Daily	Every day		9 months
	<input type="checkbox"/> Twice Weekly	M T W Th F S Sun		

RIFAMPIN

You have been given medicine to treat your TB infection.
 You do not have TB disease and cannot spread TB to others.
 This medicine will help you **PREVENT** getting TB disease.



While on this Medicine:

- Tell your primary care provider if you have questions or concerns with the medicine.
- Go to your daily clinic visits. You will meet with your primary care nurse to take your medicine. This plan is called Directly Observed Therapy (DOT).
- Take all of your medicine as you were told by your primary care provider.

TB Infection Medicine Schedule:

Medicine	Schedule	Day	Number of pills per day	Length of time
Rifampin	Daily			4 months

NOTE: It is normal if your urine, saliva, or tears become orange-colored. Soft contact lenses may become stained.

Watch for these Possible Problems:

STOP taking your medicine right away **AND** tell your primary care nurse or provider if you have any of the problems below:

- Less appetite, or no appetite for food
- An upset stomach or stomach cramps
- Nausea or vomiting
- Cola-colored urine or light stools
- Easy bruising or bleeding
- Rash or itching
- Yellowing skin or eyes
- Severe weakness or tiredness
- Fever
- Head or body aches
- Dizziness

RESUMEN

APOYO PARA TOMAR DECISIONES

EDUCACIÓN PARA EL PACIENTE/CONTROL PERSONAL DEL CASO

LO QUE DEBE SABER**¿QUÉ ES LA INFECCIÓN DE TUBERCULOSIS?**

La infección de Tuberculosis (TB) es una infección causada por gérmenes de TB. Si le han dicho que padece de una infección de TB, debe haber pasado tiempo con una persona que sufre de la enfermedad de TB activa e inhaló los gérmenes de TB a sus pulmones. Estos gérmenes pueden esparcirse a otras partes de su cuerpo, tales como los pulmones, huesos o riñones.

Cuando padece de la infección de TB, los gérmenes de TB se encuentran 'vivos' en su cuerpo, pero no causan daño en el momento.

**¿CUÁLES SON LOS SÍNTOMAS DE UNA INFECCIÓN DE TB?**

No existen síntomas de la infección de TB. Los gérmenes de TB permanecen latentes en su cuerpo, pero podrían comenzar a crecer, esparcirse y convertirse en una enfermedad de TB activa. Cuando los gérmenes crecen y se esparcen, se considera una enfermedad de TB activa. Las personas con la enfermedad de TB activa pueden enfermarse mucho y propagar la TB a otras personas. **Esto puede ocurrirle a cualquier persona que tiene la infección de TB en cualquier momento.**

¿CÓMO SÉ SI TENGO LA INFECCIÓN DE TB?

Una prueba cutánea o un examen de sangre de TB revelará si padece de la infección de TB o no.

Si le informan que su prueba de TB resultó positiva, se le realizará:

1. Una radiografía del pecho para verificar si tiene la enfermedad de TB activa en los pulmones.
2. Un examen físico para asegurarse que no tenga la enfermedad de TB activa en otras partes del cuerpo.

Si su proveedor de atención médica le indica que su radiografía del pecho está normal y no presenta síntomas de enfermedad de TB activa en su cuerpo, se le indicará que tiene la infección de TB activa.

¿CADA PERSONA QUE TENGA UNA INFECCIÓN DE TB CORRE EL RIESGO DE CONTRAER LA ENFERMEDAD DE TB ACTIVA?

Todas las personas que tienen una infección de TB corren el riesgo de que los gérmenes de TB se esparzan y se desarrollen en una enfermedad de TB activa. Algunas personas poseen condiciones que los hacen más propensos a desarrollarla. Converse con su proveedor de atención médica si:

- Tiene la infección de VIH.
- Tiene otros problemas de salud como diabetes.
- Ha padecido de una infección de TB en algún momento durante los 2 últimos años.
- Sufre de alcoholismo o consume drogas ilegales.
- Ha tomado medicinas para la infección de TB, pero no terminó el tratamiento.

LO QUE DEBE SABER

¿SI SUFRO DE LA INFECCIÓN DE TB, CÓMO PUEDO EVITAR LA ENFERMEDAD DE TB ACTIVA?

Si tiene la infección de TB, hay medicinas que puede tomar para evitar que la enfermedad de TB se vuelva activa. Las medicinas para la infección de TB destruyen los gérmenes latentes de TB antes de que logren enfermarlo.

Su proveedor de atención médica le prescribirá la medicina para la infección de TB que sea mejor para usted.

Debido a que los gérmenes de TB son fuertes, necesitará tomar la medicina para la infección de TB por varios meses (de 3 a 9 meses). Es muy importante que tome su medicina y se mantenga tomándola hasta que su proveedor de atención médica le indique que abandone el tratamiento. Si no se toma la medicina durante varios días o si deja de tomárselo demasiado pronto, podría contraer la enfermedad de TB activa.

¿POR QUÉ DEBO TOMAR MEDICINAS SI NO ME SIENTO ENFERMO?

La medicina para la infección de TB destruye los gérmenes de TB en su cuerpo antes de que logren crecer, esparcirse y causarle enfermedad.

¿QUÉ DEBO SABER SOBRE LA MEDICINA PARA LA INFECCIÓN DE TB?

Muchas personas toman medicinas para la infección de TB todos los días sin ningún problema, pero existen algunos aspectos de los que debe estar pendiente:

- La fiebre.
- Falta de apetito, pérdida de peso o sensación de cansancio.
- Náusea y vómitos.
- Dolor en el abdomen.
- Color de orina oscura (color similar al té o café).
- Ojos amarillos y piel amarilla.
- Erupción cutánea o picazón.
- Sensación de entumecimiento u hormigueo en las manos o los pies.
- Tos por más de 2 a 3 semanas.
- Sudoración durante la noche.



Converse con su proveedor de atención médica si tiene alguno de estos problemas.

LA ISONIAZIDA y LA RIFAPENTINA

Le han dado medicamentos para tratar su infección de TB.
 No padece de la enfermedad de TB y no puede propagar la TB a otros.
 Esta medicina le ayudará a **EVITAR** la enfermedad de TB.

Durante el tratamiento con esta medicina:

- Indíquelo a un proveedor de atención médica si tiene preguntas o inquietudes relacionadas con la medicina.
- Acude a las consultas semanales. Se reunirá con una enfermera cada semana para tomar su medicina. Este plan se llama Terapia Directamente Observada (TDO).

El horario de la medicina para la infección de TB:

Medicina	Horario	Día	Cantidad de píldoras por día	Duración
La Isoniazida y la Rifapentina	Una vez por semana			3 meses (12 semanas)

Es posible que su proveedor de atención médica le recete la vitamina B6 junto con su medicina.

NOTA: Es normal que su orina, saliva o lágrimas se tornen de color naranja. Los lentes de contacto blandos pueden mancharse.



Esté atento a estos problemas posibles:

DETÉNGASE Y contacte inmediatamente a su médico o enfermera de TB si tiene alguno de los problemas indicados:

- Menos apetito o falta de apetito
- Malestar estomacal o calambre estomacal
- Fiebre
- Dolor de cabeza o corporal
- Náusea o vómitos
- Orina de color oscuro o heces de color claro
- Moretones o hemorragias con facilidad
- Erupciones o picazón
- Ojos amarillos o piel amarilla
- Debilidad o cansancio grave
- Hormigueo o entumecimiento en las manos o los pies
- Mareos

LA ISONIAZIDA

Le han dado medicamentos para tratar su infección de TB.
 No padece de la enfermedad de TB y no puede propagar la TB a otros.
 Esta medicina le ayudará a **EVITAR** la enfermedad de TB.



Esté atento a estos problemas posibles:

Durante el tratamiento con esta medicina:

- Dígale a su proveedor de atención médica si tiene preguntas o inquietudes sobre la medicina.
- Acude a las consultas programadas. Se reunirá con una enfermera para tomar su medicina. Este plan se llama Terapia Directamente Observada (TDO).
- Tome todas sus medicinas como se lo indicó su proveedor de atención médica.

DESCONTINÚE su medicina inmediatamente **Y** contacte a su médico o enfermera de TB si tiene alguno de los problemas indicados:

- Menos apetito o falta de apetito
- Malestar estomacal o calambres estomacales
- Náusea o vómitos
- Orina de color oscuro o heces de color claro
- Erupciones o picazón
- Ojos amarillos o piel amarilla
- Hormigueo o entumecimiento en las manos o los pies

El horario de la medicina para la infección de TB:

Medicina	Horario	Día	Cantidad de píldoras por día	Duración
La Isoniazida	<input type="checkbox"/> Diario	Todos los días		9 meses
	<input type="checkbox"/> Dos veces por semana	L M M J V S D		

LA RIFAMPINA

Le han dado medicamentos para tratar su infección de TB.

No padece de la enfermedad de TB y no puede propagar la TB a otros.

Esta medicina le ayudará a **EVITAR** la enfermedad de TB.



Esté atento a estos problemas posibles:

Durante el tratamiento con esta medicina:

- Si tiene preguntas o inquietudes sobre esta medicina, pregúntele a su proveedor de atención médica.
- Acude a las consultas programadas cada mes. Se reunirá con una enfermera para tomar su medicina. Este plan se llama Terapia Directamente Observada (TDO).
- Tome todas sus medicinas como se lo indicó su proveedor de atención médica.

El horario de la medicina para la infección de TB:

Medicina	Horario	Día	Cantidad de píldoras por día	Duración
La Rifampina	Diario			4 meses

NOTA: Es normal que su orina, saliva o lágrimas se tornen de color naranja. Los lentes de contacto blandos podrían mancharse.

DESCONTINÚE su medicina inmediatamente **Y** contacte a su médico o enfermera de TB si tiene alguno de los problemas indicados:

- Menos apetito o ausencia de apetito
- Malestar estomacal o calambre estomacal
- Fiebre
- Dolor de cabeza o corporal
- Náusea o vómitos
- Orina de color oscuro o heces de color claro
- Moretones o hemorragias con facilidad
- Erupciones o picazón
- Ojos amarillos o piel amarilla
- Debilidad o cansancio grave
- Hormigueo o entumecimiento en las manos o los pies
- Mareos