



Case Study: Patient Update #1

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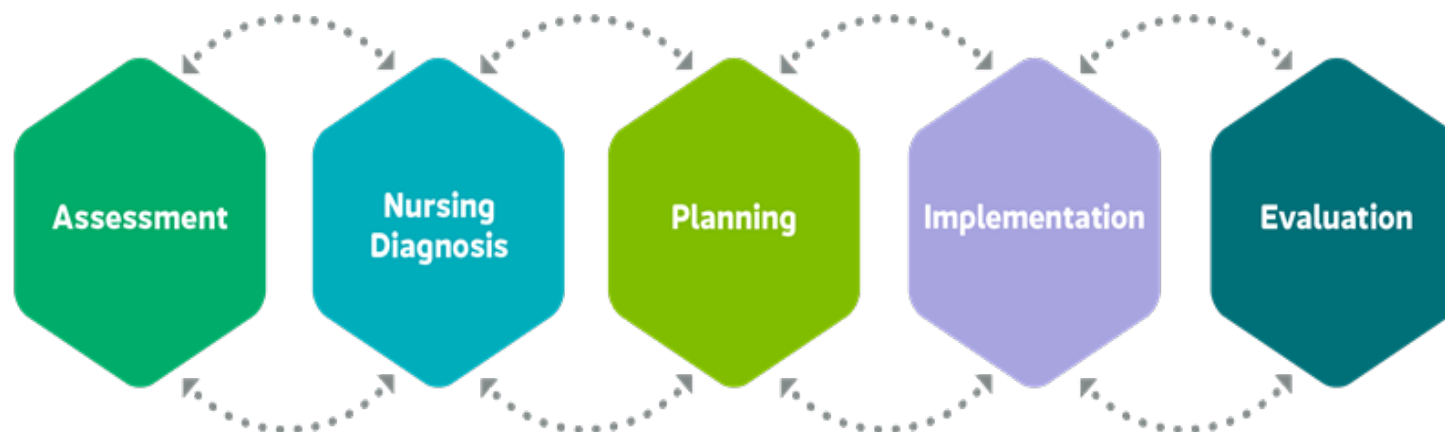
Case Study Summary

- 65-year-old male, Air Force veteran with a history of untreated hepatitis C. He has a “cough that will not go away,” and he has been “been feeling tired.”
- Abnormal CXR, reveals extensive bilateral cavitary lesions.
- History of positive TST “years ago” when he was in the military.
- **TB clinic visit reveals:**
 - AFB smear (+), Xpert (+)
 - history of alcohol use
 - unstable housing
 - untreated Hep C
 - labs drawn and LFTs = ALT 45 units/L, and AST 60 units/L.



Case Management

Since the patient has co-morbid conditions and social factors that may influence treatment outcomes, he will likely need intensive TB nurse case management to complete treatment successfully.



TB Nurse Case Management Process

Includes:

- Thorough Nurse Assessment
- Identify problems/complaints/barriers
- Develop a Plan to address problems/complaints/barriers
- Intervene rapidly with plan implementation
- Evaluate the plan
 - modify the plan as needed

Process is ongoing throughout TB treatment to Identify any new Problems/Complaints/Barriers

Minimize treatment interruptions

- Goal is to **Complete Adequate TB treatment Successfully!!!!**



Important to do a Social History

Provides an understanding of the patient's lifestyle, habits, home life, occupational, and recreational aspects that have the potential to be clinically significant.

Things to Consider when doing the Social History:

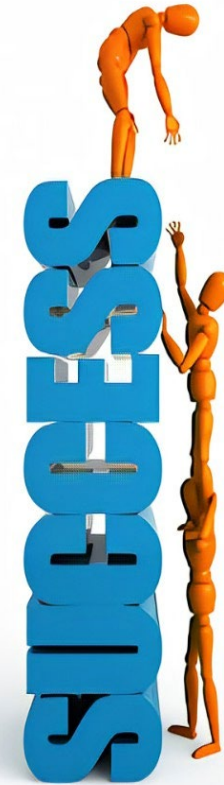
- TB medications are hard on the liver, so if the patient drinks alcohol, can they abstain for 6 – 9 months?
- If the patient has unstable housing, will we be able to find the patient for DOT?
- Does the patient speak English?

Important to understand your patient in a holistic manner.



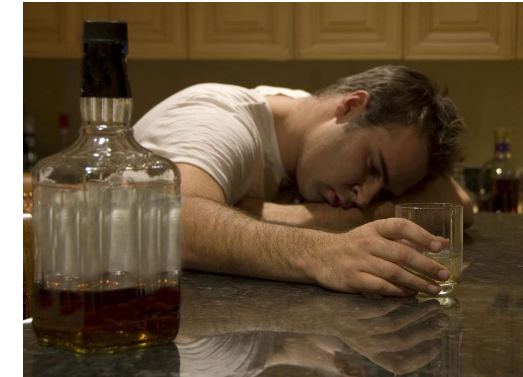
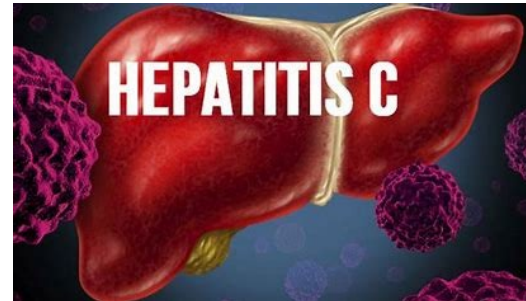
Group Exercise:

1. Identify barriers to treatment for this patient
2. How will you address barriers to treatment?



Case Study Continued

- Identified unstable housing
- Alcohol use
- Untreated Hep C



Case Study Continued


Health Dept. Interventions

- Identified unstable housing =
 - Health Department provided assistance for housing utilizing incentive funds to pay for a motel room
 - Referred to the VA for long term housing assistance.
- Alcohol use
 - Alcoholics Anonymous referral
- Untreated Hep C
 - Referred patient to VA for follow up



Link Patients to Community Services

Aunt Bertha



helpfinder

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Find programs

in the San Antonio, TX 78223 area

Choose from the categories above and browse local programs, or search for any service. Select Language ▼ to translate the site.

This curated database of resources is provided by **HelpFinder**.



<https://helpfinder.auntbertha.com/>

San Antonio Resource Directory



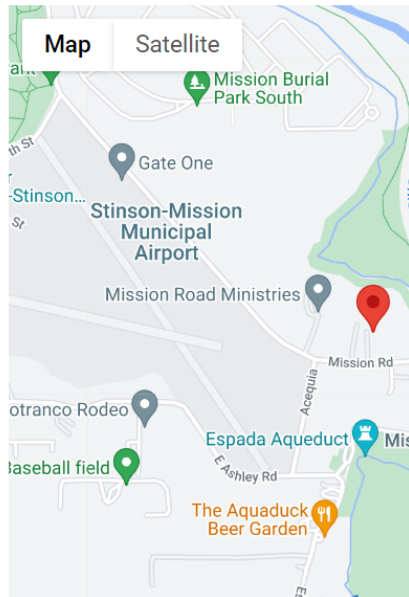
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[Independence Square, Inc.](#)

[Mission Road Ministries](#)

6.4 miles away, [8708 Mission Rd, San Antonio, TX, 78214](#), D3

Independence Square, Inc. is one of three apartment complexes in San Antonio sponsored by Mission Road Ministries that provide affordable housing and services for adults with intellectual and other developmental disabilities, but need minimal supports.

The apartments are Housing and Urban Development (HUD) subsidized apartment complexes, designed exclusively for adults with intellectual and other developmental disabilities, and are supervised by the Suzanne Smith Management Company.

The apartments have one or two bedroom options with a community room for gatherings and a laundry room.

- Adult with an intellectual developmental disability
- Low income

<https://www.sacrd.org/directory/program/292>

Patient Education

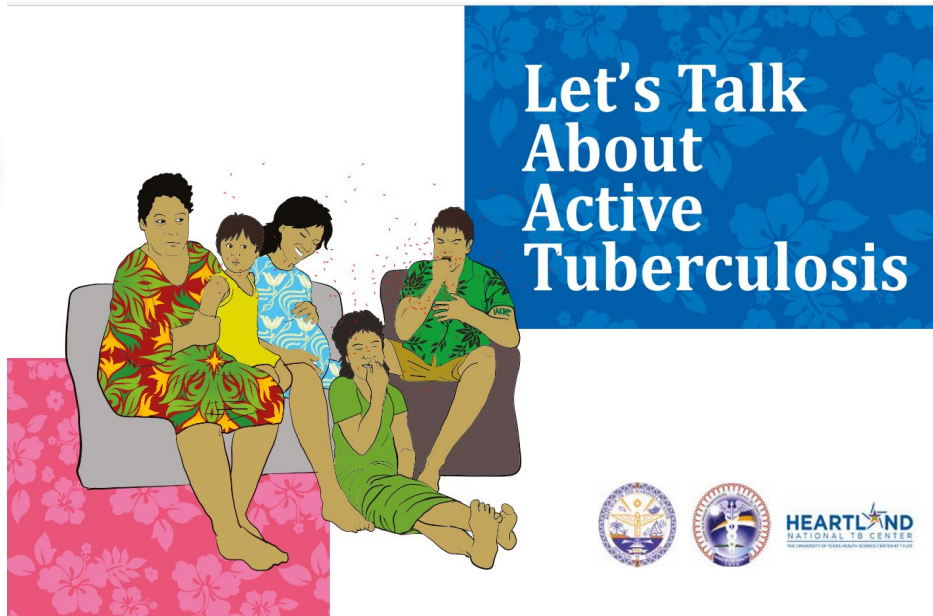
Important to provide Patient Education on TB Medication

- Side effects
- Adverse reactions

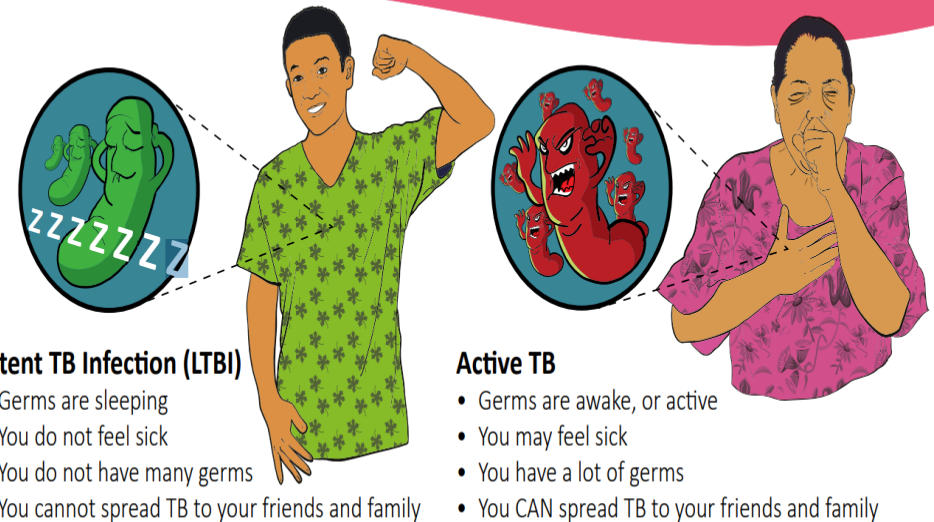
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Bedaquiline QTc prolongation Decreased appetite Nausea Hepatitis Headaches Arthralgias	Delamanid QTc prolongation Nausea Vomiting Dizziness Insomnia Upper abdominal pain	Meropenem Nausea Vomiting G.I. Upset



Provide Patient Education



What is tuberculosis? Tuberculosis, or TB, is a disease caused by a germ
There are two types of TB:



Latent TB Infection (LTBI)

- Germs are sleeping
- You do not feel sick
- You do not have many germs
- You cannot spread TB to your friends and family

Take medicine for LTBI so you don't get sick with active TB

Active TB

- Germs are awake, or active
- You may feel sick
- You have a lot of germs
- You CAN spread TB to your friends and family

Take medicine for active TB to be cured and prevent others from getting sick

YOU CAN PREVENT TUBERCULOSIS: A PATIENT EDUCATIONAL HANDOUT (UKRAINIAN)

Free Product by SNTC



CULTURAL QUICK REFERENCE GUIDE: PHILIPPINES

Free Product by SNTC



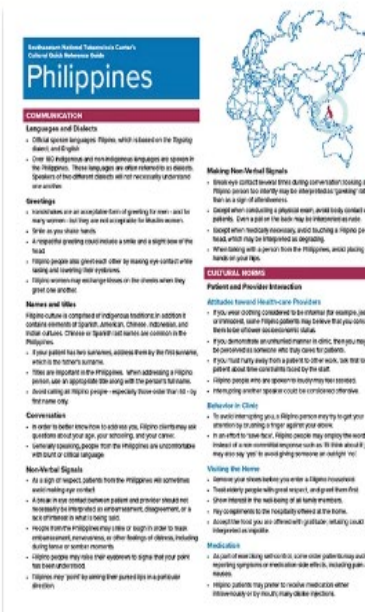
Description

This handout describes the main characteristics of LTBI and Active TB, as well as their differences. It also describes what increases the risk for developing Active TB and how to prevent TB from developing. The flyer was translated to Ukrainian by professional translators funded by SNTC.

4/15/22

Fact Sheet

DOWNLOAD



SNTC | Quick Reference Guide | Philippines

Minnesota Dept. of Health

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- TB Prevention and Control Program

Active TB Disease

This fact sheet gives general information about active TB disease including symptoms, complications, tests, and treatment.

On this page:

- [Facts about active TB](#)
- [How did I get TB?](#)
- [How does TB disease affect my body?](#)
- [How do doctors test for TB?](#)
- [How can I get better?](#)
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Minnesota Department of Health

مرض السل (تي بي) النشط

إذا كنت تعتقد أنك قد أصبت بمرض السل (تي بي) النشط فهذه بعض الحقائق التي ينبغي أن تعرفها:

- السل (تي بي) هو مرض خطير يمكن شفاؤه بالعلاج والدواء المناسبين.
- بعض الأشخاص المصابين بالسل (تي بي) يمكن أن ينشروا المرض لأشخاص آخرين.

كيف أصاب بالسل (تي بي)؟

أي فرد ممكن أن يصاب بالسل. عندما يسعل أو يعطس أو يتكلم أحد الأشخاص المصابون بالسل فإن جراثيم السل يمكن أن تزد إلى الهواء. أي شخص بالقرب يمكن أن يتنفس الجراثيم إلى رئتيه. لا يمكن أن تصاب بالسل (تي بي) من مصافحة اليد أو من الطعام، الأطباق، الملابس، أو الأشياء الأخرى.



عندما تدخل جراثيم السل جسمك فإنها تدخل في "سبات". جراثيم السل التي في "سبات" لا تؤذي جسمك أو تمرضك وهذا ما يسمى "الإصابة بمرض السل الكامن" أو "LTBI". يمكن أن يظل لمدة قصيرة أو عدة سنوات. تصبح مريضاً بالسل عندما "تستيقظ" الجراثيم وتبدأ في النمو وتؤذي جسمك وهذا ما يسمى "مرض السل (تي بي) النشط".

كيف يؤثر مرض السل (تي بي) على جسمي؟

مرض السل (تي بي) غالباً ما يؤثر على رئتيك (السل الرئوي). السل يمكنه أيضاً أن يؤذي أجزاء أخرى في جسمك.



مما

عقدة لسفلى

عشاء الجنب

رئة

العمود الفقري

المواقع الشائعة لمرض السل (تي بي)

ماذا سيحدث إذا لم أخذ الدواء؟

جراثيم السل (تي بي) قوية جداً. إذا لم تأخذ كل دواءك بشكل صحيح فيمكن أن تمرض مرة أخرى وتشر السل (تي بي) لأشخاص آخرين.

ينبغي عليك أن تأخذ كل دواءك كما أخبرك طبيبك لتشفى. إذا لم تأخذ دواءك بشكل صحيح فإن مرضك قد يصبح أشد و سيعتج عليك أن تأخذ أدوية أقوى لمدة أطول.

صفحة 1 من 2

Case Study Continued....

- The Nurse provides patient education on Hepatotoxicity
- Explains that alcohol and over the counter pain medications, such as **acetaminophen (Tylenol)**, can increase the chance of further liver damage.
- The patient understands the risks and agrees to try and limit both while on TB treatment.

AGREEMENT





What are Signs and Symptoms of Hepatotoxicity?

Hepatotoxicity

Early Signs

- Fatigue
- Poor appetite
- Taste alteration
- Nausea
- Abdominal discomfort
- Bloating
- Minimal rash

Later Signs

- Vomiting
- Abdominal pain
- Jaundice
- Change in color of urine and stool
- Changes in behavior, memory loss



Case Study Continued.....

- Patient was started standard RIPE regimen.
- He received medication by daily DOT that was provided by the local health department
- He was monitored closely for signs and symptoms of Hepatotoxicity



Case Study Continued.....

On home visit #10 for directly observed treatment (DOT) the PHN notes that the patient's eyes are jaundiced, and he complains of abdominal bloating and nausea.



Case Study Continued.....**Visit # 10**

What are the next steps the PHN should take?

- a) Do nothing, the patient has untreated HCV, so this is an expected reaction
- b) Hold ALL TB medications, and draw blood for LFTs (per standing orders)
- c) Give him his TB medications since he cannot start treatment for HCV until he is non-infectious
- d) None of the above



Visit # 10

What are the next steps the PHN should take?

- a) Do nothing, the patient has untreated HCV, so this is an expected reaction
- b) **Hold ALL TB medications, and draw blood for LFTs**
- c) Give him his TB medications since he cannot start treatment for HCV until he is non-infectious
- d) None of the above

Hold all TB meds!!!

Let's figure things out



Case Study Continued.....

Lab results reveal a significant increase in LFTS
ALT (625 u/l) and AST (350 u/l).



Let's Do The Math

Current LFTs =

ALT 625 u/l

AST 350 u/l

- ALT 625/40 =

- ALT 625/40 = 15.6 x uln

- AST 350/42 =

- AST 350/42 = 8.33 x uln

Divide lab result by higher number
of normal value

(normal values:

ALT 10 - 40 u/L, AST 10 - 42 u/L)



What Do We Do?

Hold TB medications!

TB medications should be held if any of the liver enzymes exceed **3x** the upper limit of normal **with symptoms** present

or

5x the upper limit of normal **without symptoms**.

Educate your patient to self-monitor

Goal is to Complete Adequate TB treatment Successfully!!!!



Side Effects & Adverse Reactions

Catalina is going to review some of the other TB medications side effects and adverse reactions

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