

Exercise – Infectious Period and Prioritizing Contacts Activity

Case information:

On October 1, 2016, a 24 year old woman born in the Philippines presents to the hospital with complaint of fatigue, productive cough, and weight loss. Patient reports her cough has gotten progressively worse over the last several weeks.

Vital signs are as follows: Temp = 101; R= 18; P= 82; BP= 114/72. Weight = 40.9kg.

Sputum results are as reported as follows:

- Specimen #1: smear negative; *culture pending*
- Specimen #2: smear 2+; Xpert MTB detected, RIF resistance not detected; *culture pending*
- Specimen #3: smear 1+; *culture pending*

A chest X-ray reveals a right upper lobe infiltrate. She is started on TB treatment (isoniazid, rifampin, ethambutol and pyrazinamide) and is released from the hospital 5 days later and referred to your office to continue TB treatment.

During the initial interview, she verifies that she had been having symptoms consistent with TB for about a month prior to her admission to the hospital. She tells you she has been staying in three different houses in the area with various relatives since she arrived from the Philippines in August 2015. She had trouble finding work so she has been helping out with childcare for young children in two of these households, as well as for another neighbor.

On further talking, she clarifies that she is currently living with her 42 y/o Aunt (#1), her husband, and their 3 children (son age 16, and two daughters ages 9 and 6). She's been staying with this family since the end of June 2016. Our patients also babysat in the house of her Aunt's neighbor who has two children (daughter age 4 and a 3 year old son), but the last time she babysat was over a month ago.

Prior to living with Aunt (#1), she stayed with her cousin who has a daughter, who just turned 2, and our patient babysits for her cousin as needed.

When our patient first arrived from the Philippines, she lived at another Aunt (#2) and Uncle's home until March 2016 when she moved to help her cousin with babysitting.

Our patient was hoping to become a medical assistant and began classes at the local school 2 weeks before she was hospitalized. She attended classes on Monday, Wednesday, and Friday from 3:00–4:30pm. She states she has not yet gotten to know her classmates and did not socialize with them. She named 4 friends that she hangs out with some evenings and weekends but states she has not been out with them for several weeks now.

Instructions:

Using the available information from the case scenario and the list of our patient's contacts below, you will work in your small group as instructed by the facilitator to answer the following questions:

- What is the beginning of the infectious period?
- List the sites of possible transmission. Which site will you visit first and why?
- How will you prioritize contacts at this stage?

Designate a priority level for each individual or group listed below as one of the following: "High" priority, "Low" priority or as "No" (not a contact)

Contact List:

<p>House #1 (Aunt #1) from June – Oct. 1, 2016:</p> <ul style="list-style-type: none"> • Aunt <input type="radio"/> High <input type="radio"/> Low <input type="radio"/> No • Aunt's husband <input type="radio"/> High <input type="radio"/> Low <input type="radio"/> No • Male cousin, age 16 <input type="radio"/> High <input type="radio"/> Low <input type="radio"/> No • Female cousin age 9 <input type="radio"/> High <input type="radio"/> Low <input type="radio"/> No • Female cousin age 6 <input type="radio"/> High <input type="radio"/> Low <input type="radio"/> No 	<p>House #4 (Aunt & Uncle #2) Aug 2015 – March 2016:</p> <ul style="list-style-type: none"> • Aunt <input type="radio"/> High <input type="radio"/> Low <input type="radio"/> No • Uncle <input type="radio"/> High <input type="radio"/> Low <input type="radio"/> No
<p>House #2 (Neighbor's home) from June – Aug 2016:</p> <ul style="list-style-type: none"> • Neighbor <input type="radio"/> High <input type="radio"/> Low <input type="radio"/> No • 4 year old daughter <input type="radio"/> High <input type="radio"/> Low <input type="radio"/> No • 3 year old son <input type="radio"/> High <input type="radio"/> Low <input type="radio"/> No 	<p>Medical Assistant College contact for 2 weeks</p> <p>Instructor and classmates <input type="radio"/> High <input type="radio"/> Low <input type="radio"/> No (total number and details unknown)</p>
<p>House #3 (Cousin's home) from March – June 2016:</p> <ul style="list-style-type: none"> • Cousin <input type="radio"/> High <input type="radio"/> Low <input type="radio"/> No • 2 year old daughter <input type="radio"/> High <input type="radio"/> Low <input type="radio"/> No 	<p>Named Friends – contact up until Sept. 23, 2016:</p> <ul style="list-style-type: none"> • Friend 1 <input type="radio"/> High <input type="radio"/> Low <input type="radio"/> No • Friend 2 <input type="radio"/> High <input type="radio"/> Low <input type="radio"/> No • Friend 3 <input type="radio"/> High <input type="radio"/> Low <input type="radio"/> No • Friend 4 <input type="radio"/> High <input type="radio"/> Low <input type="radio"/> No

Exercise - Locate, evaluate, treat and follow-up contacts

Case scenario update:

The culture is reported positive for *M. tuberculosis complex* on October 29, 2016. The first round of skin testing among high and low priority contacts is completed three weeks after the initial interview. A few additional contacts were identified through the field investigation and initial testing process. It was difficult to locate a few of the school contacts. Initial contact evaluation results are as follows:

<p>House #1 (Aunt #1):</p> <ul style="list-style-type: none"> • Aunt • Aunt's husband • Male cousin, age 16 • Female cousin age 9 • Female cousin age 6 • Aunt's brother • Prior TST+, asymptomatic • Prior TST+, asymptomatic, uncontrolled diabetic • TST+, asymptomatic • TB suspect, symptomatic, abnormal CXR • TST- , asymptomatic • TST+, asymptomatic 	<p>House #4 (Aunt & Uncle #2):</p> <ul style="list-style-type: none"> • Aunt • Uncle • Did not have contact with patient during the infectious period
<p>House #2 (Neighbor's home)</p> <ul style="list-style-type: none"> • Neighbor • Neighbor's husband • 4 year old daughter • 3 year old son • TST- , asymptomatic, HIV+ • TST+, asymptomatic, HIV - • TST- , asymptomatic • TST+, asymptomatic 	<p>Medical Assistant College</p> <ul style="list-style-type: none"> Instructor Classmates (14) • TST-, asymptomatic • TST+ (4), TST- (10)
<p>House #3 (Cousin's home):</p> <ul style="list-style-type: none"> • Cousin • Cousin's boyfriend • 2 year old daughter • TST- , asymptomatic • TST- , asymptomatic • TST- , abnormal CXR, TB suspect 	<p>Named Friends</p> <ul style="list-style-type: none"> • Friend 1 • Friend 1's boyfriend • Friend 2 • Friend 3 • Friend 3's boyfriend • Friend 4 • TST+ , asymptomatic • TST+ , asymptomatic • TST+ , asymptomatic • TST+ , asymptomatic • TST placed/not read • TST-, asymptomatic

- What further evaluation is required for the contacts in House #1 listed above?
- Which contacts are your priorities for treating and why?
- What treatment regimen would be recommended for contacts in household #2?