

Contact Investigation - Management Changes & Updates

Techniques & Tools for TB

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Quick and Dirty Topics

- Social Networking - concept awareness
- Basics for Contact Investigation
- Priority Assignment Tool - Cases & Suspects/Contacts
- Thoughts and Next Steps - Discussion Project

Social Networking

A **social network** is a social structure made up of (individuals or organizations) called "**nodes**" which are linked (connected) by one or more specific types of interdependency such as:

- friendship
- kinship
- common interest
- financial exchange
- dislikes
- sexual relationships
- relationships of beliefs
- knowledge
- prestige

Social Networking

- In its simplest form, a **social network** is a map of all of the relevant links between all the nodes (individuals or organizations) interacting
- **Social network analysis** is a tool used in epidemiology to help understand how patterns of human contact aid or inhibit the spread of diseases such as TB or HIV in a population
 - Can expose "casual transmission"
 - Retrospective in nature but used to predict future transmission

Social Networking

"Casual" transmission of *M. tuberculosis* is defined as transmission from an infectious TB patient to persons who are not "close" contacts from household, work/school, or leisure settings

Transmission occurs outside of the known "concentric circle"
Identifying the link could aid in stopping transmission

Social Networking

- Areas of interest and field investigation
 - clubs
 - bars
 - churches
 - basements (parties, cards, etc.)
 - recording studios (after parties, back stage, etc.)

Note: Individuals do not necessarily know each other.
The link is the location.

Popular Websites

Useful for finding links between places or people

Common Social Networking Sites:

- MySpace
- FriendWise
- FriendFinder
- Friendster
- Yahoo! 360
- Facebook
- MySpace
- Twitter
- Orkut
- Classmates

Common Job Networking Sites:

- Plaxo
- simplyhired
- jobster
- myworkster
- linkedin
- Other:
 - Cell phone contact list
 - White Pages.com
 - USPS.com
 - Reverse Phone Number Search

Social Networking Questions

- Asking people personal information is very difficult
- Usually easier after a high level of rapport has developed
- CDC Guidelines recommend a re-interview for CIs
- In reality, every encounter with a patient is an opportunity to re-interview

Social Networking Questions

- Concentrate on:
 - Hobbies, interests and recreation (sexual relationships)
 - Locations and times where hobby or interest took place
 - Other people who have the same hobby or interest
 - Nickname
 - Physical description
 - Anything identifiable

Social Networking Questions

Example Questions:

- Tell me about things you like to do?...Play guitar?
- Have you ever been to a festival or a concert after-party?
- When is the last time you...?
- How many times last year, or last month did you...?
- Describe who else was there (tattoos, scars, general description...)

Social Networking Analysis

- Social networking questions relate more specifically to a known or suspected "link" (place/activity or time) where transmission has occurred or potentially may occur
- Place/Activity and Time become more important than who...
- Questioning may take place long after the initial interview
- Information could establish epi links to genetically linked cases

Social Networking Analysis

- Information could interrupt "casual transmission" in previously unknown settings
- Frequently, only nicknames or descriptions are known, that's ok...
- We may only need to establish an "Epi" link for known cases that are genetically linked in order to take action at a particular location...

Call me anytime...

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Basics of CI - Management

"Take care of the patient first":
The above quote is a Mooreism...

- Determine if the patient:
 - is infectious (smear)
 - needs isolation
 - started appropriate meds (4-drug therapy)
 - is HIV (+)...if so, assure HIV referral w/CD-4 result

Basics of CI - Management

- Obtain **any** current or prior CXRs
 - abnormal
 - cavitory
- Obtain **any** prior hospital/MD records (pulmonary)
 - pneumonia, bronchitis, flu, histo, COPD, etc.
 - prior treatment with fluoroquinolones
 - MOTT - mycobacterium other than TB
 - old TB
 - MD thoughts about current disease and medical history
 - Talk to the patient

If a Contact Investigation is needed...

Basics of CI - Management
Determine Infectious Period

- **Start of Infectious Period:**
 - 3 Months prior to TB diagnosis
 - or
 - 3 months prior to **first** onset of **any** symptoms

Notes:
This date is based on review of medical history, medical chart information, MD thoughts, and patient interviews.

This date will change, usually back, as new information is learned.

Basics of CI - Management
Determine Infectious Period

- **End of Infectious Period:**
 - 2 to 3 weeks of effective TB treatment
 - Improved smears (3 consecutive negative smears on 3 different days); similar to end of Isolation standards
 - Improved symptoms

Notes:
This date is based on response to therapy.

This date usually doesn't change unless smears revert to positive while on therapy.

Basics of CI - Management
Determine Infectious Period

- **Break in exposure**
 - Date when a contact stopped having exposure to TB bacteria
 - May be at the end of the infectious period
 - Can be during the infectious period if a "break" can be documented:

Example: A household contact left home for college on July 30. An infectious TB case in the household began meds on August 30. This contact has a "**break in exposure**" date of July 30 if there is **NO** further contact with the case until the end of the infectious period which may be several weeks after meds began on August 30.

Basics of CI - Management

After you have taken care of the case/suspect...

- Prioritize case/suspect **first**:
 - Cases/Suspects can be high to low priority (I - IV)
 - Priority of the case/suspect determines risk of contacts

- Prioritize risk of contacts **second**:
 - Contact risk can be High, Medium, or Low
 - High priority-risk contacts **need** full follow-up
 - Medium priority-risk contacts may need some follow-up
 - Low priority-risk contacts need follow-up only if warranted

Tool to be discussed later

Basics of CI - Management

Special Contact Considerations

| | |
|---|---|
| <p><u>Prior TST (+):</u></p> <ul style="list-style-type: none"> - With/Without prior Tx. <ul style="list-style-type: none"> • Symptom Review Only - If Symptomatic <ul style="list-style-type: none"> • CXR • Sputum Collection x 3 • Full Medical Evaluation <p><u>HIV (+):</u></p> <ul style="list-style-type: none"> • Symptom Review • TST and Chest X-Ray • Full Medical Evaluation | <p><u>Child Under 5:</u></p> <ul style="list-style-type: none"> - TST and Chest X-Ray - Full Medical Evaluation - Start Window Prophylaxis <p>May discontinue window prophylaxis if TST (-) on round 2, usually 9-10 weeks post exposure</p> |
|---|---|

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Basics for CI - Management

2 Techniques that come with experience:

Assuming you have introduced yourself and provided education etc...

- **Develop rapport**
 - very under emphasized, but highly important
 - Be nice, smile, keep eye contact-depending on culture
 - Ask them to ask questions
 - Empathize and assure them about being cured generally...
 - I like to say that I am here to worry about this for you...
 - Show interest in them as a person (I recently helped on a CI...)

Basics for CI - Management

2 Techniques that come with experience:

- **Ask non yes/no questions and open ended questions...**
 - Where do you...?
 - go to school
 - Tell me about...
 - the last time you saw you parents.
 - what you do for fun.
 - When did you...?
 - start losing weight
 - Who did you...?
 - ride with
 - see during
 - How do you...?; How much...?; How often...?
 - think you became sick

Basics for CI - Management
Contact Investigation Tools

- **Other tools**
 - Dept. of Public Safety & Corrections
 - Probation & Parole - "On Paper"
 - (The PO may need a TST as a contact)
 - Sheriff - Local
 - Federal Bureau of Prisons - Immigrant Detainees
 - Priority Assignment Tool for Cases & Suspect/Contacts (Handout)

Basics for CI - Management Contact Investigation Tools

- Probation & Parole Regional offices:
 - Western Regional Office
 - (540) 561-7050
 - Central Regional Office
 - (840) 674-3008
 - Eastern Regional Office
 - (757) 925-2231
- Headquarters is in Richmond located within the Western Regional Office

Priority Assignment Tool - Cases & Suspects/Contacts

- I. Risk assignments of contacts exposed to suspected or confirmed **AFB sputum smear (+)** pulmonary/laryngeal/pleural TB; TB suspects or confirmed cases with **cavitary** chest radiographs

High Risk Priority Contacts:

- All household contacts
- Anyone aged <5 yrs old
- Contacts with Medical Risk Factors: HIV or other immune compromising condition
- Contacts exposed during a medical procedure: Bronchoscope, Sputum Induction or Autopsy
- Contacts in a congregate setting
- Contacts with exposure exceeding environmental limits (TB Control suggested limits)

Medium Risk Priority Contacts:

- Anyone aged 5-15 yrs old
- Contacts with exposure exceeding environmental limits (TB Control suggested limits)

Low Risk Priority Contacts: Anyone other than above; only considered if expansion is warranted

Priority Assignment Tool - Cases & Suspects/Contacts

- II. Risk assignments of contacts exposed to suspected or confirmed **AFB sputum smear (-)** pulmonary/laryngeal/pleural TB; **abnormal/non-cavitary** chest radiograph **consistent** with TB disease; **NAA (+/-); Culture (+)**

High Risk Priority Contacts:

- Anyone aged <5 yrs old
- Contacts with Medical Risk Factors: HIV or other immune compromising condition
- Contacts exposed during a medical procedure: Bronchoscope, Sputum Induction or Autopsy

Medium Risk Priority Contacts:

- All household contacts
- Contacts in a congregate setting
- Contacts with exposure exceeding environmental limits (TB Control suggested limits)

Low Risk Priority Contacts: Anyone other than above; only considered if expansion is warranted

Priority Assignment Tool - Cases & Suspects/Contacts

III. Risk assignments of contacts exposed to **suspected** or **clinical** tuberculosis (TB) with abnormal chest radiographs **not consistent** with TB disease; **AFB sputum smear (-); NAA (-); Culture (-)**

High Risk Priority Contacts:

- None

Medium Risk Priority Contacts:

- All household contacts
- Anyone aged <5 yrs old
- Contacts with Medical Risk Factors: see above
- Contacts exposed during a medical procedure: Bronchoscope, Sputum Induction or Autopsy

Low Risk Priority Contacts: Anyone other than above; only considered if expansion is warranted

Priority Assignment Tool - Cases & Suspects/Contacts

IV. Contact Investigation is not indicated for Nonpulmonary cases if **Pulmonary/Pleural** TB are ruled out

Definitions:

NAA - Nucleic Acid Amplification test
AFB - Acid Fast Bacilli from sputum

MMWR Reports and Recommendations, December 16, 2005/54 (RR15) - 1-37 (Figures 1-4)

Priority Assignment Tool - Cases & Suspects/Contacts

Definitions: (cont.)

Exposure exceeding environmental limits - VDH TB Control has suggested the following environmental exposure limits allowing some discretion to warrant expansion or limitation of Contact Investigations:

- 8 hours - Very Small spaces (car, small office, 120 square feet)
- 24 hours - Small/Medium spaces (classroom, meeting room, etc.)
- 50 hours - Medium/Large spaces (cafeteria, small church, etc.)
- 100 hours - Large spaces (gymnasium, auditorium, etc.)

Examples (above) are arbitrary and only meant to add perspective

*****Tim Epps will host a breakout session about environmental limits later today*****

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Final Thoughts
Questions, Comments, Concerns

Many Thanks!!
