

Tuberculosis Contact Investigation: Facility Assessment

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Factors Determining Transmission

1. Infectiousness of Case
2. Duration of Exposure
3. Environmental Conditions
4. Susceptibility of Contact

Infectiousness of Case

- Smear Results (Carbolfuchin stain)
- Negative No AFB Seen
- +/- 1 - 2 AFB/300 Fields
- 1+ 1-9 AFB/100 Fields
- 2+ 1-9 AFB/10 Fields
- 3+ 1-9 AFB/Field
- 4+ >9 AFB/Field

Infectiousness of Case - 2

- Smear Results (Fluorochrome stain)
- Negative No AFB Seen
- +/- 1-2 AFB/30 Fields
- 1+ 1-9 AFB/10 Fields
- 2+ 1-9 AFB/Field
- 3+ 10-90 AFB/Field
- 4+ >90 AFB/Field

Duration of Exposure

- Exposure Limits
- 8 hrs very small space
- 24 hrs small-medium space
- 50 hrs medium-large space
- 100 hrs large space

Environmental Conditions

- Size of Environment
- Amount of ventilation
- Number of air exchanges

Susceptibility of Contact

- Current Immune Status
- Immunosuppressive Medication
- Some Illegal Drugs
- HIV Status
- Malnutrition
- Extreme fatigue / Lack of sleep

Facility Assessment: Ventilation

- Standard air handler
- Re-circulating air
- 5% - 10% fresh air mix
- Many output vents
- Few return vents
- Direct duct or plenum

Facility Assessment: Office

- Individual offices vs cubicles
- Location of return vents
- Location of doors and windows



Facility Assessment Office



Facility Assessment Warehouse

- Very large spaces
- Often open loading bay doors
- Look for area fans
- Most important area is break room

Facility Assessment
Warehouse



Facility Assessment
Warehouse



Facility Assessment
Classroom

- “Classroom” vs Lecture Hall
- Often test for “political reasons”
- Never forget school bus

Facility Assessment
Classroom



Facility Assessment
Classroom



Facility Assessment:
School



Facility Assessment
Nursing home

- Most have individual AC units in Rooms
- Usually have standard vents in hall ceiling
- “Zones” often ventilate single wing
- Check dining room, therapy rooms

Facility Assessment
Church

- Check for “favorite” seats.
- Make note of any directional ventilation.
- Start investigation with contacts one row distant.

Conclusion

Remember:

- The four elements affecting communicability
- TB is airborne
- Air currents within open spaces
