TB Infection Algorithm
Please review definition and pathophysiology when using the algorithm

High risk >5mm
- People with HIV infection
- Close contacts of people with infectious TB
- People with chest x-ray findings suggestive of previous TB disease
- People who inject illicit drugs and whose HIV status is unknown

Intermediate risk >10 mm
- People born in areas of the world where TB is common (foreign-born persons)
- People who inject illicit drugs but who are known to be HIV negative
- Low-income groups with poor access to health care
- People who live in residential facilities (for example, nursing homes or correctional facilities)
- People with medical conditions that appear to increase the risk for TB (not including HIV infection), such as diabetes
- Children younger than 4 years old
- People in other groups likely to be exposed to TB, as identified by local public health officials

Low to no risk
- An induration of 15 or more millimeters is considered a positive reaction for people with no risk factors for TB.

Are Risk Factors Present or has the client had an exposure to TB 10 weeks prior to exam?

YES
- Perform PPD or quantiferon if indicated (QFT-G can be used in contact investigations, evaluation of recent immigrants, contacts and health care workers who have had BCG vaccination)

NO
- Initiate client education for Health Seeking Behaviors:
  - Don’t inject illicit drugs and avoid exposure to HIV virus though unprotected sex with an infected person
  - Continue to seek health care at routine intervals according to age
  - Avoid exposure to clients who are actively coughing in areas where TB disease is endemic
  - If you develop risk factors for TB, seek physician consultation for screening
  - Seek consultation with your doctor if you develop s/s of active TB

Monitor for s/s of TB
- Fever, dyspnea, Pleuritic chest pain, cough, hemoptysis, night sweats, weight loss

Are positive findings present?

YES
- Follow collaborative plan of care for the PC: active TB disease

NO
- Positive
  - Initiate the plan of care for a Risk for Ineffective Therapeutic Regimen management:
    - Teach client about disease process and risk for developing TB
    - Reinforce that persons with latent TB infection are not infectious and they cannot spread TB infection to others.
    - Discuss taking TB prophylaxis if prescribed to reduce the likelihood of active TB disease later in life
    - Review importance of adherence to TB prophylaxis
    - Teach s/s of TB to report to MD
    - Review periodic follow-up for tolerance and adherence to therapy management of side effects, and adverse effects to report
    - Encourage periodic evaluation for active TB disease

Negative
## Collaborative Problem

**Potential Complication: Active TB disease**

### Assess s/s of active TB disease
- Fever, dyspnea, chest pain, cough, hemoptysis, nights sweats, weight loss

### Assess for contributing factors:
- Immunosuppression due to advancing age, medication therapy or illness
- TB infection

### Monitor for presence of the disorder
- Perform PPD testing or QFT-G if TB infection if PPD status is unknown (do not repeat skin testing on a client known to have TB infection)
- Monitor vital signs for tachypnea, tachycardia and hypotension associated with lower respiratory infections
- Monitor pulse oximetry for declining saturation
- Obtain sputum for AFBs on 3 consecutive mornings
- Monitor chest X-ray report for findings consistent with TB
- Perform baseline lab/diagnostics for antitubercular therapy; BMP, CBC, uric acid, LFTs, vision exam, hearing exam

### Additional assessment includes monitoring from presence of complications
- Monitor for s/s septic shock

## DO

**Perform nursing actions that manage active TB**
- Initiate airborne precautions once TB is suspected and continue until client is indicates a therapeutic response to therapy and has 3 negative sputum for AFB
- Consult infection control department in acute care facility
- Administer 4 drug antitubercular regimen according to type suspected (MDR-TB vs. not) and underlying disease (HIV infection on HAART therapy) for recommended duration
  - Therapy duration is generally 6 months and can be extended to 9 months using a regimen and frequency according to CDC guidelines. Increased duration may be necessary for resistant strains
- Directly observe medication administration. DOT therapy will be continued upon discharge.
- Monitor for adverse effects of therapy
- Consult case management
- Provide routine care to a client who has a respiratory infection, oxygen, hydration, bronchodilator therapy, cough enhancement, hyperthermia management and nutrition
- Teach client about continued follow-up and therapy to ensure TB eradication and reduce the likelihood for the development of resistant strains
- Instruct client in strategies to reduce infection transmission in community
- Monitor for failure to respond to therapy, s/s of sepsis

## CALL

- call MD if client becomes hemodynamically unstable, unresponsive to antimicrobial therapy
- provide supportive care; ABC/s and shock management and call MD

### OUTCOMES/BENCHMARKS:
- Sputum for AFB negative, TB culture negative
- Temperature within normal limits
- Respirations even and unlabored, no chest pain, absence of cough, night sweats & weight loss

Susan McCabe revised 10/1/08