DISTRICT HEALTH DEPARTMENT

EPI - NEWS

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March 12, 2004
Vol. 24, No. 6

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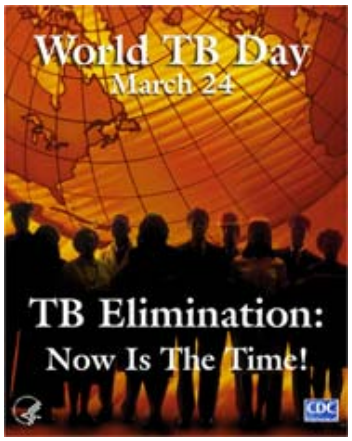
WORLD TB DAY, MARCH 24, 2004
TB ELIMINATION: NOW IS THE TIME!

"Now is the time to grasp a vision. A vision of coming together on World TB Day in the near future to celebrate the elimination of tuberculosis in this country."
---Dr. Kenneth G. Castro, Director of CDC's Division of Tuberculosis Elimination.



World TB Day, held on March 24 each year, is an occasion for people around the world to raise awareness about the global health threat of tuberculosis (TB). In 1982, a century after German biologist Dr. Robert Koch's discovery of *Mycobacterium tuberculosis,* the first World TB Day was sponsored by the World Health Organization (WHO) and the International Union Against Tuberculosis and Lung Disease (IUATLD). This event educates the public about the devastating health and economic consequences of TB, its effect on developing countries, and its continued tragic impact on global health.

TB was epidemic in the late 19th and early 20th centuries, killing one out of every seven people living in the United States and Europe. The incidence of TB steadily declined between the 1950's, when anti-tuberculosis medication became readily available, and into the mid 1980's. With declining numbers came decreased funding and decreased attention to TB. From 1985 to 1991, the number of reported TB cases jumped 18.4%. HIV, increased homelessness, drug addiction and impoverished populations, along with an increase in immigration from countries with endemic TB, all fostered the resurgence of TB in the United States.

TB is once again on the decline in the United States, but is not yet a disease of the past. Among infectious diseases, TB remains the second leading killer in the world with more than 2 million TB-related deaths a year. TB causes more deaths among women worldwide than all causes of maternal mortality. In 2002, there were still more than 15,000 reported cases of TB in the US. A report from the Division of Health Promotion and Disease Prevention of the Institute of Medicine (IOM), *Ending Neglect: The Elimination of Tuberculosis in the United States,* cautions that decisive action must be taken to avoid slipping into another cycle of neglect that allows TB to proliferate.

According to the WHO, one-third of the world's population is infected with TB. In the US, there are an estimated 10 to 15 million people infected with *Mycobacterium tuberculosis*. The people in this reservoir of latent infection have the potential for developing active disease at any time. Clinicians should identify patients who are at high risk for acquiring infection; or at high risk of progressing to disease once infected. Mantoux tuberculin skin tests (TST) should be administered as part of a routine evaluation. Infected individuals believed to be at high risk for developing active TB should be offered treatment of latent tuberculosis infection (LTBI), *regardless of age*. Treatment of LTBI greatly decreases the possibility that active disease will develop, protects the health of the individual, and reduces potential sources of infection. A nine-month regimen of isoniazid 300 mg daily is considered optimal treatment for both HIV-positive and HIV-negative adults with LTBI.

Since most people are unfamiliar with the idea of taking drugs for an asymptomatic infection, patient education is a vital component of care if treatment is to succeed.

Please share this document with all physicians & staff in your facility/office.

Who should be tested for latent tuberculosis infection?

- Close contacts, such as housemates or coworkers, of persons who have infectious pulmonary tuberculosis
- Recent immigrants (≤ 5 years) from countries with prevalent tuberculosis
- Persons with high rates of tuberculosis transmission:
  - Homeless persons
  - Injection drug users
  - Persons with HIV infection
  - Persons living or working in institutions with individuals at risk for tuberculosis
  - Hospital employees
  - Long-term care facility employees and residents
  - Residents and employees of:
    - homeless shelters,
    - residences for AIDS patients and
    - correctional facilities.

Persons with clinical conditions or risk factors that predispose progression from LTBI to active tuberculosis, such as:

- HIV infection
- Injection drug use
- Diabetes mellitus
- Chronic renal failure or hemodialysis
- Silicosis
- Cancer of the head and neck or other neoplasms
- Gastrectomy or jejunoileal bypass surgery
- Organ transplantation
- Corticosteroid therapy
- Remicaid therapy

Revised American Thoracic Society (ATS)/CDC Recommendations Against the Use of Rifampin and Pyrazinamide for Treatment of LTBI: Previously, CDC reported findings from passive surveillance of severe liver injury in patients treated for LTBI with a daily and twice-weekly 2-month regimen of rifampin and pyrazinamide (RZ). High rates of hospitalization and death from liver injury were associated with the use of RZ. The ATS and CDC now advise against the use of RZ treatment of LTBI, and recommend this regimen generally not be used. Clinicians are encouraged to use other recommended alternative regimens for the treatment of LTBI (see Table 1, next page). **These recommendations against the use of RZ for treatment of LTBI do not apply to the appropriate use of rifampin and PZA in multidrug regimens for the treatment of persons with active TB disease.** In these circumstances, the risk for morbidity and mortality from TB disease is substantially greater than with LTBI. Rifampin and PZA are essential components of regimens recommended by the ATS/CDC/Infectious Diseases Society of America (IDSA) that render patients noninfectious rapidly and are effective in curing patients with drug-susceptible *M. tuberculosis* strains within 6 months.

QuantiFERON-TB (blood test) for diagnosing LTBI: Until 2001, the only test used to diagnose LTBI was the TST. In 2001, a new test was approved by FDA. QuantiFERON-TB (QFT) measures the release of interferon-gamma in whole blood in response to stimulation by purified protein derivative as an aid for detecting LTBI. Blood samples are mixed with antigens and incubated for 16 to 24 hours. If the patient is infected with *M. tuberculosis*, the blood cells will recognize the tuberculin and release interferon-gamma in response. Although QFT is not routinely used in Nevada, it was used during a TB contact investigation after a case of infectious TB was identified in a dialysis center in Southern Nevada.

For more information, contact the Washoe County District Health Department Tuberculosis Prevention and Control Program at (775) 785-4785 or visit the following websites:
CDC TB website: http://www.cdc.gov/nchstp/tb
Washoe County District Health Department: http://www.co.washoe.nv.us/health

TABLE 1. Revised drug regimens for treatment of latent tuberculosis infection (LTBI) in adults.*

Drug	Interval and duration	Comments†	Rating§ HIV-negative	(Evidence)¶ HIV-infected
Isoniazid	Daily for 9 months**††	In HIV-infected persons, isoniazid may be administered concurrently with nucleoside reverse transcriptase inhibitors (NRTIs), protease inhibitors, or non-nucleoside reverse transcriptase inhibitors (NNRTIs).	A (II)	A (II)
	Twice weekly for 9 months**††	**Directly observed therapy (DOT) must be used with twice-weekly dosing of any treatment regimen.**	B (II)	B (II)
Isoniazid	Daily for 6 months††	Not indicated for HIV-infected persons, those with fibrotic lesions on chest radiographs, or children.	B (I)	C (I)
	Twice weekly for 6 months††	DOT must be used with twice-weekly dosing.	B (II)	C (I)
Rifamipin	Daily for 4 months	Used for persons who are contacts of patients with isoniazid-resistant, rifampin-susceptible TB. In HIV-infected persons, most protease inhibitors or delavirdine should not be administered concurrently with rifampin. Rifabutin with appropriate dose adjustments can be used with protease inhibitors (saquinavir should be augmented with ritonavir) and NNRTIs (except delavirdine). Clinicians should consult web-based updates for the latest specific recommendations.	B (II)	B (III)
Rifampin plus pyrazinamide (RZ)	Daily for 2 months	**RZ generally should not be offered for treatment of LTBI for HIV-infected or HIV-negative persons.**	D (II)	D (II)
	Twice weekly for 2-3 months		D (III)	D (III)

* Adapted from CDC. Targeted tuberculin testing and treatment of latent tuberculosis infection. MMWR 2000;49(No. RR-6).
† Interactions with drugs for human immunodeficiency virus are updated frequently and are available at http://www.aidsinfo.nih.gov/guidelines.
§ Strength of the recommendation:
A. Both strong evidence of efficacy and substantial clinical benefit support recommendations for use. **Should always be offered.**
B. Moderate evidence for efficacy or strong evidence for efficacy but only limited clinical benefit supports recommendation for use. Should generally be offered.
C. Evidence for efficacy is insufficient to support a recommendation for or against use, or evidence for efficacy might not outweigh adverse consequences (e.g., drug toxicity, drug interactions) or cost of the treatment or alternative approaches. Optional.
D. Moderate evidence for lack of efficacy or for adverse outcome supports a recommendation against use. Should generally not be offered.
¶ Quality of evidence supporting the recommendation:
I. Evidence from at least one properly randomized controlled trial.
II. Evidence from at least one well-designed clinical trial without randomization from cohort or case-controlled analytic studies (preferably from more than one center), from multiple time-series studies, or from dramatic results from uncontrolled experiments.
III Evidence from opinions of respected authorities based on clinical experience, descriptive studies, or reports of expert committees.
** Recommended regimen for persons aged <18 years.
†† Recommended regimen for pregnant women.
§§ The substitution of rifapentine for rifampin is not recommended because rifapentine's safety and effectiveness have not been established for patients with LTBI.

Reference:

Centers for Disease Control and Prevention. Update: Adverse Event Data and Revised American Thoracic Society/CDC Recommendations Against the Use of Rifampin and Pyrazinamide for Treatment of Latent Tuberculosis Infection—United States, 2003. MMWR 2003;52:735-739.