DISTRICT HEALTH
WASHOE COUNTY SPARKS RENO NEVADA
DEPARTMENT

EPI NEWS

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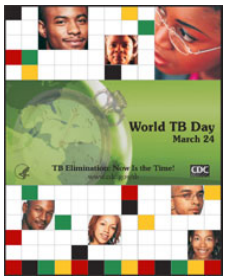
WORLD TB DAY – March 24, 2006



On March 24, 1882, Dr. Robert Koch announced his discovery of the tubercle bacillus. For the past 24 years, *World TB Day* has been observed on March 24 to commemorate one of the most important steps toward controlling and eliminating tuberculosis (TB).

World TB Day is a day to raise awareness of the global menace of TB; a day to recognize the collaborative efforts of all countries involved in fighting TB; and a time to acknowledge the impact of TB in our own community.

Global TB

One third of the world's population is infected with *Mycobacterium tuberculosis* – the tubercle bacillus. About 8 million people develop TB[1] every year – and another 2 million die from it. Among infectious causes of death, TB is the second leading killer of adults in the world.

The *Stop Tuberculosis Partnership* is a worldwide coalition of over 400 organizations. In January 2006, it launched the *Global Plan to Stop TB, 2006-2015*. The plan calls for global spending on TB to triple over the next decade to: 1) treat 50 million people and prevent 14 million deaths, 2) to develop new drugs to reduce the length of treatment, and 3) to produce a vaccine to replace BCG. The Bill & Melinda Gates Foundation pledged $900 million to the plan over the next 10 years.

TB in the United States

We are making progress in reducing the incidence of TB in the United States. In 2004, 14,517 cases were reported for a rate of 4.9 cases per 100,00 persons. This is the lowest number of cases and incidence rate since the beginning of national reporting – but the smallest rate of decrease since 1993. Diligence must be maintained to prevent another "cycle of neglect."

[1] "TB," as used in this document, means an active disease process caused by infection with *M. tuberculosis*.

Over half of the persons diagnosed with TB in 2004 were born outside of the United States. Incidence rates among racial and ethnic minority groups far exceed the overall national rate.

An estimated 9 to 14 million persons in the United States are infected with *M. tuberculosis*. On average, 10% of infected persons will develop TB at some point in their lives. Some underlying conditions, such as HIV infection and diabetes, significantly increase the risk that latent TB infection (LTBI) will progress to tuberculosis.

TB in Nevada

Nevada had 112 new TB cases in 2005 – 90 in Clark County, 1 in Carson City, 5 in rural counties, and 16 in Washoe County. Of these, 71% were foreign-born. Two cases in Clark County had multi-drug resistant (MDR) TB. To date, there have been no MDR cases in Washoe County, but several have been resistant to isoniazid (INH).

New Blood Test for TB. The FDA approved a new test to identify infection with *M. tuberculosis*. "QuantiFERON-TB Gold" is more specific than the tuberculin skin test (TST) and requires only one visit instead of the two visits required to place and evaluate a TST. This test detects the release of interferon-gamma (IFN-g) in fresh heparinized whole blood from sensitized persons when it is incubated with mixtures of synthetic peptides representing two proteins present in *M. tuberculosis.* It does not cross-react with BCG vaccine or most atypical mycobacteria.

The Nevada Administrative Code is being revised to allow the use of QuantiFERON-TB Gold or any future FDA-approved test for identifying *M. tuberculosis* infection. The current law requires the Mantoux TST. Providers can apply for a variance to use QuantiFERON-TB Gold until the law is changed. A public hearing on the proposed revision is scheduled for March 21, 2006, at 1:00 p.m. at the Washoe County District Health Department (WCDHD).

New Local Initiatives

New recommendations from the CDC call for increasing community collaborations to prevent another resurgence of TB like that seen in the 1980's. The WCDHD Tuberculosis Prevention and Control Program (TBPCP) recently initiated the following joint efforts.

- Public Health Nurses (PHNs) are serving as liaisons between the TBPCP and the Men's Drop In Center, the Washoe County Detention Facility, the Hispanic Coalition, HIV care providers and several private physicians.

- TB Case Managers are coordinating care of the more socially, culturally and medically complicated TB cases with community providers and physicians.

- The Men's Drop In Center began screening all new shelter guests for symptoms of TB in January 2006. The Center's staff received training on TB symptoms and respiratory hygiene, i.e., "cover your cough." Anyone who has symptoms suggestive of TB is referred for evaluation to the TBPCP Clinic at 10 Kirman Avenue in Reno.

- TBPCP staff are meeting quarterly with the Nevada State TB Coordinator and the medical staff of the Washoe County Detention Facility (WCDF). The group develops care plans for inmates with TB or LTBI to ensure continuity of treatment after they are released. The PHN liaison visits the WCDF weekly to maintain regular communication, support timely and efficient contact investigations and provide training, education and clinical consultation as needed.

- All persons with HIV should be evaluated for TB and vice versa. Twenty-six percent (26%) of adult TB cases in the United States are attributed to HIV co-infection. TB is often the first illness to manifest in a person with undiagnosed AIDS. TBPCP is partnering with local providers of HIV care to promote screening and evaluation for TB and improve case finding in this high-risk population.

Ongoing Activities …

The TBPCP remains committed to directly observed therapy (DOT) when treating persons with TB. Staff also identifies and tests close contacts to these cases, and offers treatment for LTBI when the TST is positive and a chest x-ray (CXR) has ruled out TB.

In 2005, 74% of the new TB cases in Washoe County were foreign-born. The TBPCP receives official documents on all new legal immigrants who plan to reside in Washoe County and whose CXRs in their country of origin showed abnormalities suspicious for TB. The TBPCP locates these immigrants and ensures they receive a thorough evaluation for TB, including a TST, symptom review, repeat CXR with comparison to their immigration film, sputum smear and culture for acid-fast bacilli (AFB) when indicated, and treatment as needed.

How Can You Help to Control TB?

Identify, test & treat. Health care providers should actively identify and test their patients who are most likely to be infected with TB, or who are at increased risk of developing TB if they are infected. Patients with LTBI should be offered treatment and encouraged to complete the full regimen.

Persons at increased risk for TB infection:

- Contacts to a TB case -- especially children under age 5.
- Foreign-born persons from countries with high rates of TB, e.g., China, India, Mexico, the Philippines and Vietnam.
- Recent immigrants from countries with high rates of TB. Persons who have been in the U.S. fewer than 5 yrs have 4 times the risk of developing TB than those who have been here more than 5 yrs.

Conditions that increase the risk of LTBI progressing to TB:

- HIV infection – the strongest known risk factor.
- Diabetes mellitus.
- Immune system disorders.
- Use of TNF-α antagonists (infliximab, etanercept & adalimimab).
- Recent TB infection – the greatest risk for progression to TB is in the first 2 years after infection.

Use DOT. DOT is the gold standard of care for treating persons with TB. DOT is the most effective strategy for ensuring completion of treatment, preventing MDR TB and preventing severe complications. One Nevada county currently

treating a case of MDR TB estimates the cost will reach 1 million of our tax dollars.

Ask for Assistance. The TBPCP Coordinator, TB Case Managers and PHNs welcome your questions and referrals. We are delighted to share our knowledge and resources, and extend expert consultation from our board-certified pulmonary specialists.

Remember …

- A person with latent TB **infection** (LTBI = positive TST, normal CXR) cannot infect others.
- A person with TB **disease** (usually positive TST, abnormal CXR + symptoms) can transmit TB infection.
- TB is a reportable disease -- including suspected TB. Report within 24 hours to the WCDHD Communicable Disease Program 328-2447.
- Prompt reporting ensures timely investigations to find and treat close contacts who may also have TB or be recently infected.
- The TST …
  - When properly placed produces a 6-10 mm wheal.
  - Must be read between 48 and 72 hours after placement to be valid.
  - Reaction ***must*** be palpated, visual inspection alone is not valid.
  - Reaction is measured by the induration -- not the erythema.

THINK TB when …

- A respiratory infection doesn't resolve or it returns after standard antibiotic treatment.
- There is radiographic evidence of cavitary lesions, atypical pneumonia or infiltrates -- especially in the apices.
- The above is seen in a patient who was born or has lived in a country with high TB rates.
- A patient has risk factors for TB and a CXR that suggests TB - even if symptoms are minimal or absent.
- A patient with HIV has an unexplained cough and fever.

Resources

CDC www.cdc.gov/tb guidelines and recommendations.

WHO www.who.int/tb/en global TB.

Global Stop TB Plan www.stopTB.org videos and information.

American Lung Association www.lungusa.org

"Medical Management of Tuberculosis" www.nationaltbcenter.edu/med_mgmt 30-minute online course from Francis J. Curry National TB center offers continuing education for physicians and nurses.

WCDHD TBPCP http://www.washoecounty.us/health navigate to information on local services and educational opportunities.

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