Philadelphia Department of Public Health

Philadelphia TB Newsletter

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Tuberculosis Control Program
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The Philadelphia TB Newsletter is a quarterly publication that is intended to be a resource for clinicians, infection control personnel, and laboratories who diagnose, treat, and/or report tuberculosis (TB) in Philadelphia. It provides treatment updates and recommendations, reviews local and national TB epidemiology, and presents case studies.

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INSIDE THIS ISSUE

FAQs: How Do We Treat TB and LTBI in Pregnancy?

David Schlossberg, MD
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Tuberculous disease

If suspected clinically, tuberculosis should be diagnosed and treated as for non-pregnant patients, regardless of the stage of pregnancy. Chest x-rays can be performed, with proper safety shielding. The initial treatment regimen should be isoniazid plus rifampin plus ethambutol; pyrazinamide should be avoided during pregnancy. For drug-resistant TB, consultation with a TB expert is strongly advised.

Latent Tuberculous Infection (LTBI)

Since isoniazid hepatotoxicity may be more common in pregnancy and the post-partum state, and since pregnancy is not a risk for progression of LTBI to tuberculous disease, we recommend delaying skin-testing and treatment of LTBI until after delivery, with two important exceptions:

1. HIV infection

2. Recent infection with *M. tuberculosis*, e.g. a PPD-positive contact of a known case of TB, or a patient whose PPD recently converted from negative to positive.

Pregnant patients in these two categories are at risk for hematogenous spread of *M. tuberculosis* to the placenta and should be skin-tested as early as possible. If positive (5 mm or more induration) they should be treated for LTBI immediately, regardless of the stage of pregnancy. Chest x-rays should be performed, with proper safety shielding, to rule out active tuberculosis. Pregnant women who are recent contacts should have a CXR as soon as possible, even if the skin test is negative.

Patients in other risk groups* (i.e. neither HIV-positive nor recently-infected) should generally be evaluated and treated 2-3 months after delivery. However, physicians may elect to evaluate and treat LTBI during pregnancy in certain patients in these other risk groups on a case-by-case basis (e.g. recent immigrants, if follow-up is uncertain, etc.).

Practical points:

- Specific regimens: Treat LTBI with INH, 5 mg/kg/day (maximum 300mg), or

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TB in Art and Culture

Tuberculosis is often included in the storylines of classic, and modern works of art, film and literature.

In the HBO series *Boardwalk Empire* (2010), the main character Enoch "Nucky" Thompson states that he lost his young wife to Consumption.

In *Moulin Rouge!* (2001), Satine dies of tuberculosis at the end of her biggest performance.

It has been thought that the Hunchback of Notre Dame had Pott's Disease—tuberculosis of the spine.

The Sick Child (1886) by Edvard Munch was a portait of his sister, Sophie who died of TB.

In the film *The Citadel*, Robert Donat's character, Dr. Andrew Manson, is dedicated to treating Welsh miners suffering from tuberculosis and later assists a TB specialist in successfully performing a pneumothorax on a girl who is dying from the disease.

Upton Sinclair's novel *The Jungle* portrays tuberculosis as common among bovine in the meat-packing plants of Chicago; consumption is a common illness for packers.

Van Morrison's song "TB Sheets" (from the 1974 album of the same name) is about the narrator nursing a girl, who is dying of tuberculosis. The song is a reworking of the TB theme in American blues music.

Spotlight: Tuberculosis Program Services

Daniel Dohony, MPH
Senior CDC Public Health Advisor, Tuberculosis Control Program
and
Gilbert Lovett– Glenn
Social Worker, Tuberculosis Control Program

Philadelphia Department of Public Health
Tuberculosis Laboratory Services

PDPH Tuberculosis Laboratory ensures that results of acid-fast examinations of specimens are available promptly (ideally, within 24 hours of specimen collection). Reports of isolation and identification of M. *tuberculosis* are available within 21 days, and reports of drug-susceptibility tests are available within 28 days of specimen collection. The TB Control Program works closely with the laboratory to ensure rapid delivery of specimens to the laboratory and prompt laboratory reporting of acid fast bacilli smears, culture results, and results of drug-susceptibility tests to clinician and health department clinics. The laboratory uses rapid laboratory methods, including fluorescent acid-fast staining procedures, inoculation of a liquid medium as primary culture, nucleic acid probes to identify M. *tuberculosis*, and, using radiometric (e.g., BACTEC) systems, testing of M. tuberculosis isolates for susceptibility to the first-line drugs (23). These TB laboratory services are also available to TB control for monitoring bacteriologic response to therapy. All specimens identified as TB are forwarded to the State TB Lab for genetic fingerprinting in order to identify clusters of genetically related TB cases and to identify possible laboratory contamination issues. Hospitals and health care providers are ecnouraged to submit specimens to the Philadelphia Department of Public Health Lab.

TB Clinic Services: HIV Testing

All persons who have confirmed or suspected TB are routinely offered confidential HIV counseling and antibody testing at clinic visits and during Patient Assessment interviews. HIV testing is routinely offered to patients, aged 14 plus, at the Flick DOT Clinic on an opt out basis. There two types of HIV testing offered. Blood - venipuncture for all newly diagnosed and suspected TB patients and rapid - oral testing for latent TB infection (LTBI), extrapulmonary and clinical cases. The goal of the HIV testing within the Tuberculosis Control Program is to ensure that we have clinically relevant information on our patients HIV status so that we may treat them accordingly. In addition knowing their status will help them to remain healthy post TB treatment. As of 2009, 16% of our newly diagnosed TB patients are HIV positive.

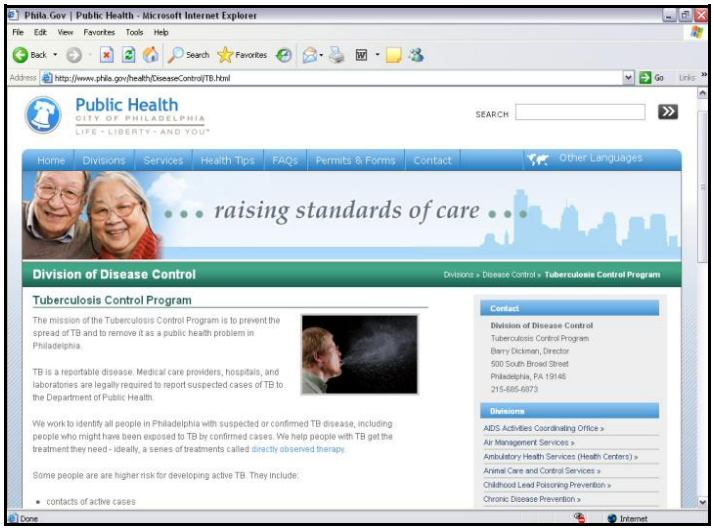
If a we find a patient to be newly HIV infected by rapid testing, a second confirmatory blood assay is performed. TB Control staff conducts post test counseling, discussed partner notification and makes appropriate referrals to the Aids Activities Coordinating Office (AACO).

Tuberculosis News– In- Brief

Extensively Drug-Resistant Tuberculosis Case Identified in Philadelphia

Staff from PDPH TB Control Program are continuing to investigate a confirmed case of Extensively Drug-Resistant Tuberculosis (XDR-TB) in a Philadelphia resident who died in April of this year. Public health officials have notified over 80 individuals who have been determined to be at risk, and have offered free TB tests. XDR-TB is a relatively rare type of TB, defined as TB that is resistant to isoniazid and rifampin, plus resistant to any fluoroquinolone and at least one of three injectable second-line drugs (i.e., amikacin, kanamycin, or capreomycin). Because XDR TB is resistant to first-line and second-line drugs, patients are left with treatment options that are much less effective and potentially more difficult to tolerate. No new XDR-TB cases have been identified after six months of contact tracing and medical screening of those exposed to the patient.

Medical providers are reminded to report TB or Suspected TB immediately to the Health Department by calling 215-685-6744.



Health Department Launches TB Web Site

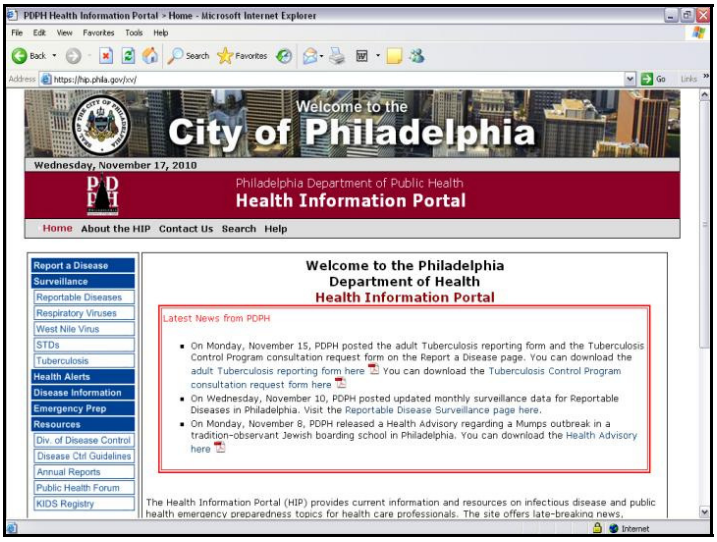
The Philadelphia Department of Public Health has launched a web site providing TB resources for residents of the city along with the medical communities. The site provides information about tuberculosis, high-risk groups, TB program services, and links to TB information and resources by the Centers for Disease Control and Prevention (CDC).

The website can be accessed at:

http://www.phila.gov/health/DiseaseControl/TB.html

In addition, the Health Information Portal (HIP) is a secure website designed specifically for heath care providers that includes information on TB epidemiology in Philadelphia as well as TB reporting requirements and forms. The HIP can be accessed at:

httpps://hip.phila.gov/xv/Surveillance/TuberculosisSurveillance/tabid/125/Default.aspx



Above: screenshot of the Health Information Portal HomePage

At left: Screenshot of the Phila.gov Tuberculoisis Control Home Page

Philadelphia Department of Public Health

Tuberculosis Control Program

500 S. Broad Street

Philadelphia, PA 19146

Phone: 215-685-6873 or 215-685-6744

Reporting

All TB cases and suspected cases must be reported to the TB Control Program within 24 hours of identification. To report a case or suspect, call 215-685-6873. Reports can also be faxed to 215-685-6477 or submitted through the Pennsylvania National Electronic Disease Surveillance System (PA-NEDSS). Reporting information is available on the TB Control website at www.phila.gov/health or can be obtained by calling 215-685-6873.

Self-Study Modules on Tuberculosis Updated

Centers for Disease Control and Prevention (CDC), Division of TB Elimination (DTBE)

The Self-Study Modules on Tuberculosis are a series of educational modules designed to provide basic information about TB for health care workers, including outreach workers, nurses, physicians, and health educators. The series consists of a total of nine modules that are separated into two courses. The first course, Modules 1-5, provides basic information on TB. The second course, Modules 6-9, provides more specific TB programmatic information. CDC recently updated and released the Self-Study Modules on Tuberculosis, 1-5 Slide Sets. These slide sets were developed as an accompaniment to the print-based Self-Study Modules on Tuberculosis, 1-5 to aid in the presentation of module content for a facilitator-led training.

The slide sets may be accessed online at:

www.cdc.gov/tb/publications/slidesets/selfstudymodules/default.htm.

The modules may be accessed online at:

www.cdc.gov/tb/education/ssmodules/default.htm.

The print-based version of these modules can be requested through the CDC/DTBE online order form at:

http://wwwn.cdc.gov/pubs/tb.aspx.

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Treating TB and LTBI in Pregnancy (cont'd)

15 mg/kg/twice weekly (maximum 900mg). Duration of INH Rx is 6 or 9 months. The twice-weekly regimen should always be given as DOT. The alternative therapy is rifampin, 10 mg/kg/day (maximum 600mg) for 4 months.

- All patients should be monitored closely for hepatotoxicity: baseline liver functions should be obtained, and liver function should be monitored weekly x 2, then monthly
- Pyridoxine (25 mg/day) should be given with INH
- Breastfeeding is not contraindicated during LTBI therapy, although the infant whose mother is taking INH should be given supplemental pyridoxine

***Risk factors**: close contacts, foreign-born (in U.S.<5 years), residents and employees of high-risk congregate settings, certain underserved populations, injection drug users, children and adolescents exposed to adults at high risk, immunosuppression (including HIV), history of inadequately-treated tuberculosis, specific clinical conditions (silicosis, diabetes, renal failure, leukemia/lymphoma, malignancies of the head and neck, body weight < 90% of ideal body weight, organ transplant, intestinal bypass, gastrectomy).