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# CDC Health Advisory

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## **Investigation of U.S. Traveler with Extensively Drug Resistant Tuberculosis (XDR TB)**

The Centers for Disease Control and Prevention (CDC) is working with a number of international, state, and local partners on an investigation involving a U.S. citizen recently diagnosed with extensively drug-resistant tuberculosis (XDR TB). XDR TB has been recently defined as a subtype of multidrug-resistant tuberculosis (MDR TB) with additional resistance to the two most important second-line antibiotics (i.e., a fluoroquinolone and an injectable agent [amikacin, kanamycin, or capreomycin]) in addition to the two most important first-line drugs (i.e., isoniazid and rifampin).

CDC learned that a patient with XDR TB traveled to Europe via commercial airline (Air France # 385) departing Atlanta on May 12 and arriving in Paris on May 13, 2007, and returned to the United States after taking a commercial flight on May 24 from Prague, Czech Republic to Montreal, Canada (Czech Air # 410). The patient re-entered the U.S. on May 24 via automobile. Since May 25, the patient has been hospitalized in respiratory isolation and is undergoing additional medical evaluation.

CDC is collaborating with U.S. state and local health departments, international Ministries of Health, the airline industry, and the World Health Organization (WHO) regarding appropriate notification and follow up of passengers and crew potentially at risk for exposure to XDR TB. Each country involved in the investigation is determining the most appropriate guidance for its residents. The following recommendations have been developed for U.S. residents who may have been exposed to this patient.

This patient has radiographic evidence of pulmonary TB, is culture-positive for XDR TB, but is sputum smear negative for acid fast bacilli and is relatively asymptomatic. On the basis of the patient's clinical and laboratory status, and lack of receiving adequate treatment for XDR TB, this patient was considered potentially infectious at the time of his airline travel, and meets the criteria in the WHO guidelines for initiating an airline contact investigation.  
[http://whqlibdoc.who.int/hq/2006/WHO\\_HTM\\_TB\\_2006.363\\_eng.pdf](http://whqlibdoc.who.int/hq/2006/WHO_HTM_TB_2006.363_eng.pdf)

In accordance with the WHO TB and Airline Travel Guidelines, to ensure appropriate follow-up and care for persons who may have been exposed to XDR TB, CDC is recommending the following for passengers and crew onboard Air France # 385 departing Atlanta on May 12 and arriving in Paris on May 13, and on Czech Air # 410 departing from Prague and arriving in Montreal on May 24: passengers seated in the same row as the index patient and those seated in the two rows ahead and the two rows behind, as well as the cabin crew members working in the same cabin should be evaluated for TB infection. This includes initial evaluation and testing with follow up 8-10 weeks later for re-evaluation.

As there has never been an airline contact investigation for XDR TB, it is not known if the current recommendations are adequate to determine the possible range and risk of transmission of infection. Because of the serious consequences of XDR TB and anticipated public concern, in addition to the contacts listed above, all U.S. residents and citizens on these flights should be notified and encouraged to seek TB testing and evaluation.

Drug-susceptible (regular) TB and XDR TB are thought to be spread the same way. TB bacilli become aerosolized when a person with TB disease of the lungs or throat coughs, sneezes, speaks, or sings. These bacilli can float in the air for several hours, depending on the environment. Persons who breathe air containing these TB bacilli can become infected.

The risk of acquiring any type of TB appears to depend on several factors, such as extent of disease in the source patient, duration of exposure, and ventilation. Transmission has been documented in association with patients who have lung disease, and bacteria seen or cultured in sputum. Persons who become infected usually have been exposed for several hours (or days) in poorly ventilated or crowded environments. An important way to prevent the spread and transmission is by limiting an infectious person's contact with other people. Thus, people who have a confirmed diagnosis of TB or XDR TB are placed on treatment and kept isolated until they are no longer infectious.

Persons who believe they may have been exposed to TB or XDR TB can call 1-800 CDC INFO for further information.

Where to go for information about:

Tuberculosis: <http://www.cdc.gov/tb/default.htm>

XDR TB: <http://www.cdc.gov/tb/pubs/tbfactsheets/xdrtb.htm>  
<http://www.cdc.gov/tb/pubs/tbfactsheets/xdrtb.htm> and  
<http://www.cdc.gov/tb/pubs/tbfactsheets/cdcandxdrtb.htm>  
<http://www.cdc.gov/tb/pubs/tbfactsheets/cdcandxdrtb.htm>

TB Testing: <http://www.cdc.gov/tb/pubs/tbfactsheets/skintesting.htm>  
<http://www.cdc.gov/tb/pubs/tbfactsheets/skintesting.htm> and  
<http://www.cdc.gov/tb/pubs/tbfactsheets/QFT.htm>  
<http://www.cdc.gov/tb/pubs/tbfactsheets/QFT.htm>

Infection control: <http://www.cdc.gov/tb/pubs/tbfactsheets/ichcs.htm>  
<http://www.cdc.gov/tb/pubs/tbfactsheets/ichcs.htm> and  
<http://www.cdc.gov/tb/pubs/tbfactsheets/rphcs.htm>  
<http://www.cdc.gov/tb/pubs/tbfactsheets/rphcs.htm>

Tuberculosis and Air Travel:

[http://whqlibdoc.who.int/hq/2006/WHO\\_HTM\\_TB\\_2006.363\\_eng.pdf](http://whqlibdoc.who.int/hq/2006/WHO_HTM_TB_2006.363_eng.pdf)

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