

# TB Gets Headlines, But NTM is the Growing Threat

A thirty-one year-old lawyers' recent airline travels while infected with multi-drug resistant tuberculosis recently grabbed international headlines. Yet, the more useful news is that TB's highly opportunistic cousins, **non-tuberculous mycobacteria (NTM)**, are **increasing eight to nine percent each year**. Thriving in natural and indoor water sources and in soil, up to 120 NTM species may cause human disease. Many of these NTM infections are even more severe than TB, causing chronic suffering and even death. Lung infections are most common, but NTM also causes bacteremia, skin diseases, and other manifestations.



# TB OR NOT TB?

## Atom tests 'affected IQ'

**NUCLEAR FALLOUT** from the first atomic bomb tests in New Mexico and, later, from tests in Nevada, is directly responsible for a sharp decline in the intelligence of American youth, according to new research.



Radioactive iodine-131, which causes thyroid damage in the newborn, has impaired the mental development of a whole generation of American children. And the effects have been present in the far west of the United States, closest to the bomb test sites.

## WIFE-STEALING HORSE

By GEORGE EDWARDS  
A HUSBAND gave his wife an ultimatum: "Either your horse goes, or I will."  
The woman replied: "I'll never part with Fritz." Then she went out for a millop.

And when she returned, her husband, Franz, had left for good.  
Franz told a divorce court in Kalsorlaulern, West Germany, that he gave the horse to his wife Liselotte for their first wedding anniversary.  
"It was a sad mistake," he said.

## Pioneer heads for the unknown

AFTER 11 years in space, the American spacecraft Pioneer 10 will certainly become the first man-made object to leave the solar system. But when it will actually do so is far from certain and provides a nice opportunity for astronomical hair-splitting.

Last Tuesday Pioneer was as far from the sun as the so-called "outermost" planet, Pluto - a possible definition of leaving the solar system. But there is a catch: Pluto's orbit is highly eccentric and some of it this will be the case for the next 17 years. And Pioneer will not cross Neptune's orbit until June 18.

But will it even then be out of the solar system? It will certainly not be clear of the heliosphere, the region of space affected by the million-mile-an-hour "wind" of electrified particles streaming out from the sun. The heliosphere extends to distances several times greater than Pioneer's present position, 2.8 billion miles from the sun. Farther still





*NTM infection results from a constellation of factors...Tap water, ice machines, water for dialysis, swimming pools, and hospital heating tanks are just a few potential sources for disease-causing NTM.*

Easily aerosolized from soil or water, NTM becomes a frequent flier for seaside vacationers, causing serious lung infections, with “hot tub lung” a risk inland. Spa settings and pedicure basins provide a perfectly warm, moist growth medium, and technicians may unknowingly massage NTM-laden water onto the freshly-shaven skin of unsuspecting clients. This happened to 110 people at just one nail salon in California, causing severe skin ulcers.



Dr. Leonid Heifets, Director of Mycobacteriology at **Advanced Diagnostic Laboratories (ADx)** at National Jewish Medical and Research Center, says the increase in NTM infection results from a constellation of factors including the aging of our population, the dramatic increase in diseases and drugs that suppress the immune system, and our widespread use of common water and aerosol sources. Tap water, ice machines, water for dialysis, swimming pools, and hospital heating tanks are just a few potential sources for disease-causing NTM.

“Normally, we’re exposed to NTM quite frequently, but our immune surveillance is able to recognize the mycobacterium as foreign and successfully fights it off. But now we have millions with

diabetes, thousands of transplant patients, people with lung disease, cancer survivors, many smokers and former smokers, and of course those with HIV/AIDS, who become overwhelmed with NTM,” says Dr. Heifets.

Disease	Incidence per 100,000	Source of Information
Tuberculosis	4.6 (and declining)	CDC
Non-tuberculous mycobacteria	14.1 (and increasing by 8 to 9% each year)	Presented at Chest 2007, Chicago, October 2007
Pneumococcal meningitis	1 to 2	CDC
Invasive MRSA	31.8	CDC

In 2003, the incidence of NTM infection in the U.S. was estimated at 14.1 per 100,000. Remember, NTM is not reportable since it is not considered communicable, so true incidence is undoubtedly much higher, especially given how difficult NTM can be to diagnose. But let’s say for argument’s sake that reports of 14.1 per 100,000 are reasonable. That means NTMs are as common as cervical cancer, thyroid cancer in women, drug-resistant staph, and NTMs are more common than one of the most serious forms of meningitis.