What is TB and how is it spread?

*Mycobacterium tuberculosis* is the germ that carries TB. It is carried on droplets in the air and so can be spread by coughing or sneezing, entering the body through the airways. If the immune system fails to stop the infection, the bacteria spread around the body and destroy tissues in the lungs, where they can multiply. Large numbers of bacteria are coughed out of the lungs into the outside world, infecting others.

With appropriate antibiotic therapy, persons with TB quickly become no longer infectious. One of the most urgent research needs, say scientists and health officials, is to cut down the time needed to securely diagnose TB in almost all cases so that treatment can begin earlier. This will speed the affected person’s recovery and at the same time reduce the period in which they are – often without knowing it – spreading disease.

How easy is it to catch TB? The answer depends on the two-stage process that occurs with TB; first you have to be infected, and second, the infection has to progress to disease. Dealing first with infection, you are more likely to be infected if the person with TB with whom you are in contact (the index case) has cavities in the lungs. These will be full of bacteria and when the person coughs, the bacteria are sprayed into the air. If you inhale a bacteria-laden droplet you may become infected. Clearly, the more time you spend with this index case, and the closer contact you have with him or her, the more likely you are to become infected. Although doctors suspect that people with HIV are more likely than others to become infected, they have not yet been able to prove it.

Secondly, there is the process of the infection progressing to disease. This happens in about 10% of those infected, and it can happen at any time during the remainder of their lives. It is more likely to happen near the time the infection occurred – as time passes, it becomes less likely. However, if the immune system weakens, as happens with diabetes or cancer, or during treatment for kidney transplantation, or conditions of famine, malnutrition and, of course, AIDS, then TB can more easily develop. In people with both HIV and infection with the TB germ, as many as 8% can develop TB each year.

*If his sputum contains bacteria, this man will spread TB by coughing and sneezing.*