Crime Scenes and Tuberculosis

By: Andy Parker

On a daily basis, we as law enforcement personnel are faced with processing crime scenes in which blood and other body fluids are present. These fluids often contain biological hazards in the form of pathogens. These hazards are normally quite visible and exposure to these pathogens can be avoided by using common sense and other protective measures such as clothing, safety glasses and gloves. HIV and Hepatitis would generally fall into this category of pathogens. One pathogen that we unknowingly come into contact with more often than we realize is Tuberculosis. It seems that not many people in our profession have an understanding of this bacterium and how it can infect us. In the next few paragraphs, I will give a brief explanation of what Tuberculosis is and how it can be transmitted. I will also attempt to add information pertaining to preventative measures that should be taken to deal with this potentially lethal bacterium.

Tuberculosis is commonly referred to as TB. This bacterium is considered an airborne pathogen. It is transferred from subject to subject like other pathogens in that it must physically come into contact with an individual. Its transmission differs from others in that you are usually unaware of the exposure. It takes place as a result of the bacterium becoming aerosolized and being inhaled. It can be casually passed from person to person simply by the infected person laughing, talking or sneezing, etc. The uninfected individual unknowingly inhales the bacterium into their lungs and exposure results. When this bacterium physically enters ones body it is referred to as a Tuberculosis infection. Once this bacterium enters the body it can never be gotten rid of. Tuberculosis will remain in ones body until they die.

Many of us are required to be present during the autopsies of individuals. During this procedure, it is commonplace for scalpels, knifes and bone saws to be used to enter the body cavity. These actions may cause the fluids from the body to become aerosolized. If these aerosolized fluids contain the bacterium, there is a very real threat of transmission.

Another area of concern should be on the crime scene itself. As we walk and/or disturb these fluids on scene, it is possible for these fluids to become aerosolized. If these fluids carry the bacterium, infection can occur when these are inhaled. This mode of transmission, in conjunction with the fact that the CDC estimates that between 10 to 15 million people in the U.S. are infected with *Mycobacterium tuberculosis* poses a formidable threat to law enforcement personnel. The Center for Disease Control estimates that Tuberculosis kills almost 3 million people annually worldwide. This disease is one that shouldn't be taken lightly. Exposure and infection are very real threats.

Unfortunately, many agencies safety officers are unaware of this disease's epidemiology and the preventative measures that should be taken in order to insure that their employees are not infected with the disease. It is mandated by OSHA that a written policy and control plan be in place for law enforcement agencies as it pertains to pathogens. This plan must also include CDC guidelines in dealing with these hazards. *The Ryan White Comprehensive Aids Resource Emergency Act* mandates that an officer within every agency be designated as an advocate for employees should exposure to blood borne pathogens become an issue. More specific information pertaining to these issues can be obtained online at "OSHA.GOV/" or at "CDC.GOV/".

As far as preventative measures for TB are concerned, there are Tuberculosis specific masks available. These masks are disposable and are available at a very low cost. You should be aware that **simple surgical masks are not made to prevent** the transmission of this bacterium. It is important to note that if your agency is considering using these masks, that a "fit test kit" must also be used to insure that mask sizing is correct. This will insure that a good tight seal be formed so that the individual wearing the mask doesn't simply breathe around the mask instead of through it. Information on this subject can also be obtained through the aforementioned web sites. It is also a good idea to check your local hospital's Epidemiology and Disease Control Department for the most recent and up to date information on this subject (including testing and treatment).

Hopefully this brief article has shed some light on an area that we should all be aware of and concerned with. Tuberculosis is a very real threat in our society. After almost being eradicated, this ancient bacterium is making a strong resurgence throughout the world. There are even some strains that have mutated and become drug resistant. We urge all readers to take this subject seriously and realize that we are in an extremely high-risk occupation when it comes to pathogens.

(This article was written by Identification Technician II Andy Parker of the Tallahassee Police Department.)