

## TUBERCULIN SKIN TEST (TST) INFORMATION SHEET

### WHAT IS TUBERCULOSIS?

1. Tuberculosis (TB) is a serious infectious disease caused by bacteria (germs) known as *Mycobacterium tuberculosis*. It usually affects the lungs, although almost any organ of the body can be involved. About one-third of the world's population is infected with TB. Most persons who are infected harbor the bacteria without symptoms, but a small proportion will develop TB disease. Each year about 8 million people worldwide develop TB disease and about 3 million die. This is mostly in developing countries. It is treatable and controllable in developed countries like Australia. Throughout history, a number of terms have been applied to the manifestations of TB disease, including: *consumption*, *white plague*, *scrofula* and *Pott's disease*.

### HOW IS IT SPREAD?

2. People with TB disease affecting the lungs spread the infection, mainly by coughing bacteria into the air.

### WHAT HAPPENS TO PEOPLE WHO COME INTO CONTACT WITH TB BACTERIA?

3. About 90% of healthy persons exposed to TB bacteria develop immunity and are not at risk of getting TB disease. Immunity is long-lasting and usually allows persons to resist further infection. However, reinfection may occur if they are in situations where the risk of TB infection is high.

4. Those who do not develop immunity have a 5-10% risk of developing TB disease at some time in their lives. A small number will develop TB disease soon after exposure. This is most likely in young children, the elderly or those with disease of the immune system. The remainder have *Latent TB Infection (LTBI)*. People with LTBI have a 5-10% risk of developing TB disease at some time in their lives, the risk being highest in the first few years after infection.

### WHAT IS THE TST?

5. The TST (Mantoux test) is a skin test used primarily to identify people who have been infected with TB and are at risk of developing TB disease. In Australia, the TST involves administration of tuberculin by the *Mantoux method* – that is by a subcuticular or very shallow injection into the skin of the forearm. By contrast, The *Heaf Test*, used in the UK, involves use of a multiple puncture gun to administer tuberculin. Although used in the past, the *Heaf test* is not used in Australia.

### WHAT IS TUBERCULIN?

6. Tuberculin used in the TST in Australia is a purified protein derivative. It consists of protein derived from TB bacteria and it does not contain any live bacteria.

### DOES THE TST PREVENT TB INFECTION?

7. No, the TST is not a vaccination. It does not prevent you from becoming infected with TB.

### WHEN DO ADF PERSONNEL NEED A TST?

8. A baseline TST, with the result recorded in millimetres, is needed on all ADF personnel. After the baseline test, a TST is only required after deployment to a country with a high rate of TB disease in the local population or after high-risk exposure to TB. All recruits for the past few years have had a baseline test recorded in millimetres. Most other personnel will not have a correctly recorded baseline TST.

9. ADF members require a TST:

- a. To establish a baseline: on entry into the ADF or subsequently, unless there is documentation of a TST result in millimetres;
- b. Three months after return from a deployment of at least 3 months to a country with a high incidence of TB disease among the local population;

- c. On occurrence, if they have been in situations where the risk of TB infection is high (that is, where a member has frequent, prolonged and close contact with a person with TB disease).

## **WHY DO SOME PERSONS NEED TO HAVE A TST BEFORE DEPLOYMENT?**

10. In many cases members, medical documents do not contain a baseline TST recorded in millimetres. For a post deployment TST to be considered positive, the result must be at least 15 mm AND be at least 10 mm larger than the previous TST.

## **WHO SHOULD NOT HAVE A TST?**

11. People who have had a TST reaction of 15 mm or more, who have been treated for TB disease in the past, or who have had any severe reaction to a TST should not have any further TSTs. Repeating the test in these people will not help to diagnose TB infection, and will create discomfort. They will have appropriate alternative monitoring for TB disease.

## **WHAT ARE THE POSSIBLE ADVERSE EFFECTS OF THE TST?**

12. Adverse reactions to the TST are rare. They include:

- a. Fainting
- b. Immediate local reaction and rash
- c. Blistering and/or ulceration at the site of injection
- d. Local swelling of lymph glands
- e. Anaphylaxis or serious hypersensitivity reactions (these are extremely rare occurring in less than one person per hundred million tests.)

## **CAN THE TST BE DONE DURING PREGNANCY OR WHILE BREASTFEEDING?**

13. There is no evidence that the TST poses any risk in pregnancy or when breastfeeding an infant, or that TST reactions are influenced by pregnancy. The TST can be deferred until after delivery for baseline or pre-deployment testing. However, the TST should be done in a woman who fell pregnant during the 3 months after deployment to a high TB incidence country or after high risk exposure.

## **WHAT HAPPENS IF MY TST RESULT IS “POSITIVE”?**

14. Persons whose TST is interpreted as positive are referred to a specialist experienced in TB for further assessment. The specialist will take all available information into account and will recommend further action in each case.

## **CAN PEOPLE WITH LATENT TB INFECTION (LTBI) SPREAD THE INFECTION TO OTHERS?**

15. Persons with LTBI are well, and cannot transmit infection to others. Persons with TB disease of the lung can transmit the infection to others, mainly by coughing.

## **CAN PEOPLE WITH LTBI BE TREATED?**

16. People with LTBI can be treated with medication. Treatment reduces their risk of developing TB disease by up to 90%.

## **IS THERE AN ALTERNATIVE TO DRUG TREATMENT FOR LTBI?**

17. Persons with LTBI can choose not to have drug treatment. They can choose to be monitored for development of TB disease by chest Xray surveillance for two years or to have no specific monitoring. If they choose not to have treatment, they will be told the symptoms and signs of TB disease and advised to seek attention promptly if they have any concerns.

## **WHAT IS THE BCG VACCINATION?**

18. The *Bacillus Calmette-Guérin* (BCG) vaccination is used primarily to decrease the severity of TB disease in children under 5 years of age. It is used in countries where there is a high rate of TB disease. It does not prevent infection with TB bacteria. BCG vaccination has not been given to ADF personnel for several years because its efficacy in adults is poor. In addition, it may cause a false positive result in the TST, particularly in the first few years after vaccination.

## **I'VE HAD A BCG VACCINE - WILL THIS AFFECT MY TST?**

19. There are two ways in which having had a BCG vaccination can influence your TST:

- a. In the baseline test, you will need to have a second TST after two weeks if your reaction to the initial test is less than 15 mm (a "two-step test"). The result of the second test will be recorded as your baseline.
- b. In post-deployment or post-exposure testing, the TST result may be larger than it would otherwise be. If you are referred to a chest clinic specialist for assessment, the specialist will take this and all other relevant factors into account.

## **WHERE CAN I GET FURTHER INFORMATION?**

20. Ask your ADF Health Care professional.