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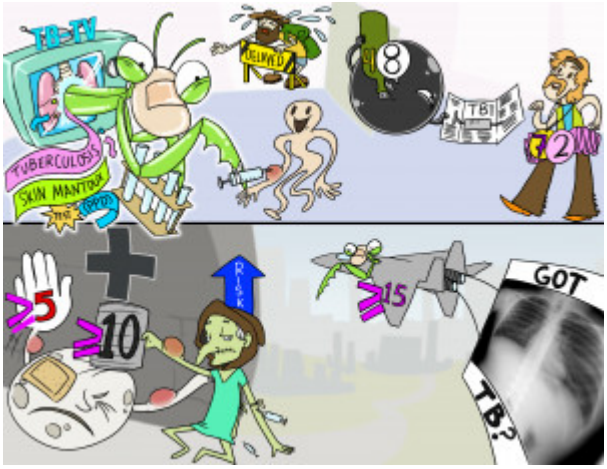
Tuberculosis Skin Mantoux Test (PPD)

A Mantoux test using purified protein derivative (PPD) is performed as a standard screening test for tuberculosis (TB). Memory cells generated during the body's initial cell-mediated response to TB will react to the PPD intradermal injection, creating a delayed hypersensitivity reaction and a positive TB skin test. The results of the skin test must be interpreted within 48 to 72 hours of receiving the PPD injection and are invalid when read before or after the allotted time frame. A positive test result will appear as an induration or a hardened mass, which is then measured to determine if the patient has tested positive or negative. Patients who test positive for TB should also get a chest x-ray to confirm or substantiate the diagnosis.



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Delayed Hypersensitivity (Cell Mediated Response)

Delay-sign with Hiker-sensitive-crying

When a patient is exposed to tuberculosis, the body will mount a cell-mediated immune response. This response will create memory cells capable of generating a delayed (Type 4) hypersensitivity reaction when subsequently exposed to PPD.

Intradermal Injection

In-skin-suit Injection

The Mantoux test is performed by injecting purified protein derivative (PPD) intradermally at a 15° angle on the dorsal side of the patient's forearm; the fluid containing the PPD will form a wheal under the skin. Patients should be instructed not to itch or cover the test site with a bandaid.

Read 48-72 hours

(40) oz with (8) Ball Reading to (70)s Guy in a (2) Tutu

The results of a tuberculosis skin test must be read by a nurse or other healthcare provider within 48 to 72 hours of receiving the PPD injection. Results cannot be interpreted before or after the allotted time frame. A positive PPD result occurs when the body has been sensitized to tuberculosis and has created antibodies that react with the protein in the Mantoux test injection. A positive result will create an induration or hardened mass, whose diameter is then measured to determine if the patient has tested positive or negative for the disease. The area of redness at the injection site is NOT measured as part of the induration.

Positive Results

≥ 5 mm Induration

> (5) Hand

In an immunocompromised patient, an induration or hardened mass measuring greater than or equal to 5 millimeters in size is considered a positive result.

Immunosuppressed

Moon-suppressed

An induration measuring greater than or equal to 5 millimeters is considered a positive result in immunosuppressed patients. This group of patients includes any of the following: HIV-positive, radiographic signs of TB on chest x-ray, taking chronic immunosuppressants (e.g. after organ transplant or for another disease), or recent contact with another person who is infected with TB.

≥ 10 mm Induration

> (10) Tin

In high risk patients, an induration measuring greater than or equal to 10 millimeters in size is considered a positive result.

High Risk Patients

Up-arrow Risk Crone IV-drug-user

Patients with high risk of reactivation include any of the following: intravenous drug use, homelessness, immigration from a country with a high prevalence of TB, chronic illness (e.g. diabetes, kidney disease, lung disease, or malignancy), occupational or residential setting in healthcare, prison, or microbiology lab.

≥ 15 mm Induration

> F-(15)

An induration measuring greater than or equal to 15 millimeters is always considered positive regardless of risk factors. There may be evidence of blistering at the test site as well.

Considerations

Chest X-Ray

Chest X-Ray

A patient who presents with a positive tuberculosis skin test should obtain a chest x-ray to confirm the diagnosis or to rule out a false positive test result. It is important to remember that a patient with TB may have a negative chest x-ray. Confirmative diagnosis of TB is by sputum culture.

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