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校園結核病接觸者 衛教說明會

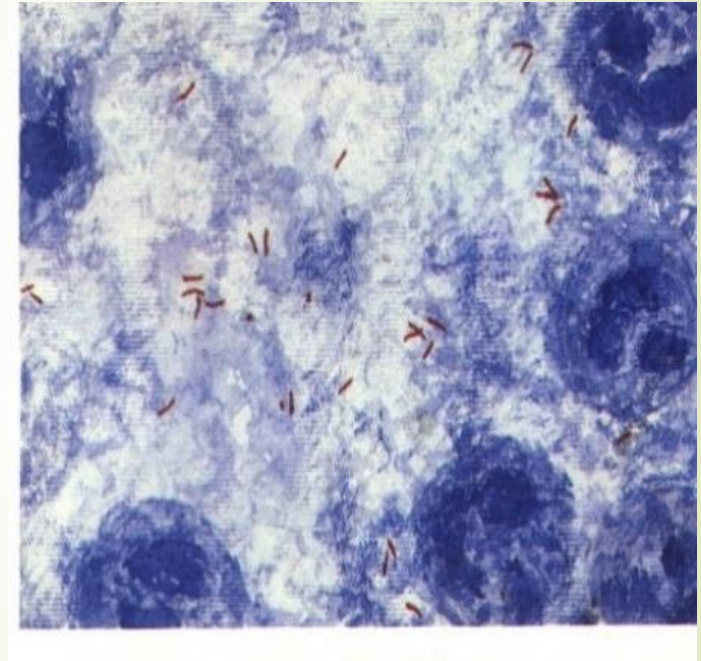
高雄市三民區衛生所

幸福三民
健康同行

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TB

1. Overview of Tuberculosis Bacteria

- Tuberculosis is an infectious disease caused by the bacterium *Mycobacterium tuberculosis*.
- Tuberculosis bacteria are acid-fast, aerobic bacteria that thrive at 37°C.
- It can persist for several months in dark, humid conditions but is susceptible to inactivation by direct sunlight within 4-6 hours or by boiling for a minimum of 5 minutes.
- Upon entering a human host, these bacteria can establish a latent infection within cells.



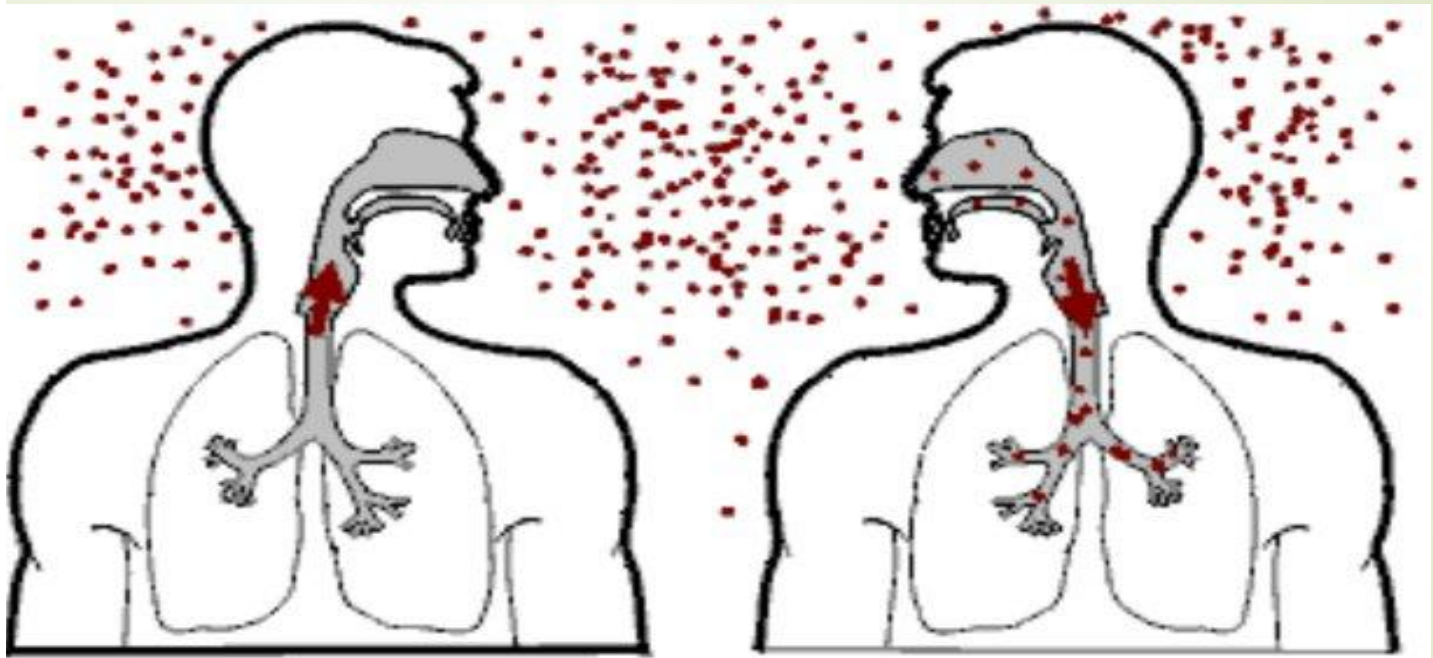
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2. How tuberculosis spreads

Transmitter

Carrying TB Bacterium

Receiver

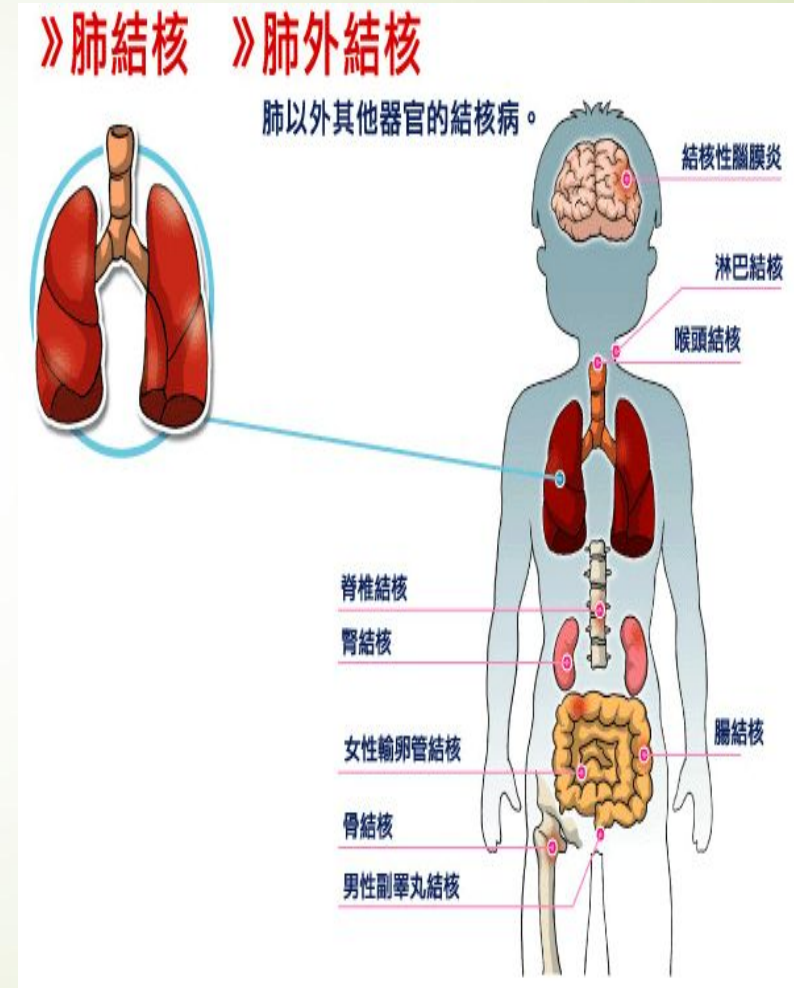


1. Tuberculosis can spread through droplets containing TB bacteria that's been released into the air when an infected person: coughs, sneezes, talks, sings or laughs. Dried droplets that linger in the air can even carry the bacteria. Whether it's inhaling droplets from a patient's cough or airborne, the risks still remains.
2. The disease couldn't be transmitted via clothes, utensils, or other objects.

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3. TB & Extrapulmonary TB

1. After the initial infection, the bacterium will go through via blood or lymph, spreading through the lungs or extrapulmonary TB. While most bacteria are in the lungs, extrapulmonary TB approximately accounts for 90%.
2. After infection, the bacterium will reactivate in the body and the probability of getting sick ranges from 5~10%, there's half of these cases that patients can get sick in the first five years, with the most dangerous being within the first year.



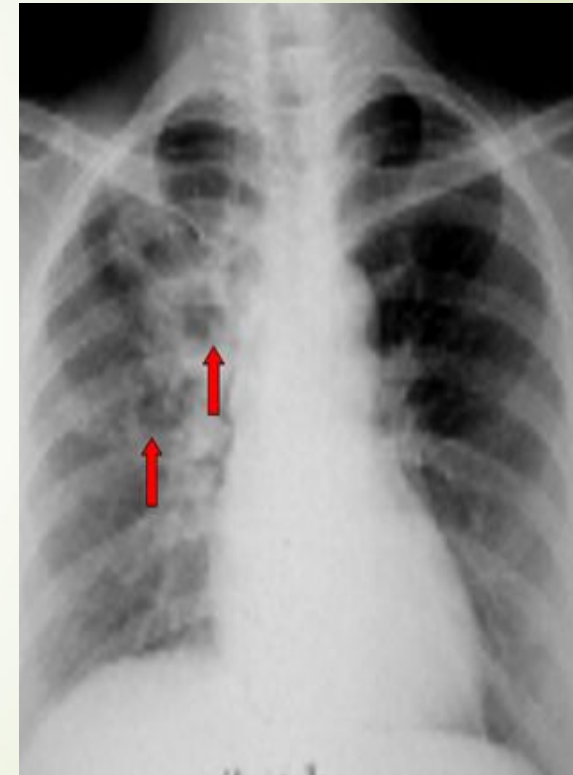
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4. Signs of Tuberculosis

1. During the early stages of tuberculosis, there won't be obvious signs or specific symptoms; it progresses slowly.

Common Symptoms:

1. Coughing (Especially after 2 months, phlegm)
2. Hemoptysis (Coughing up blood).
3. Chest pain (Oftentimes it's pleurisy).
4. 65~80% patients show signs of fever
5. Chills/cold sweats
6. Fatigue/Exhaustion
7. Reduced appetite/weight loss
8. Extrapulmonary symptoms
(If it's extrapulmonary TB)



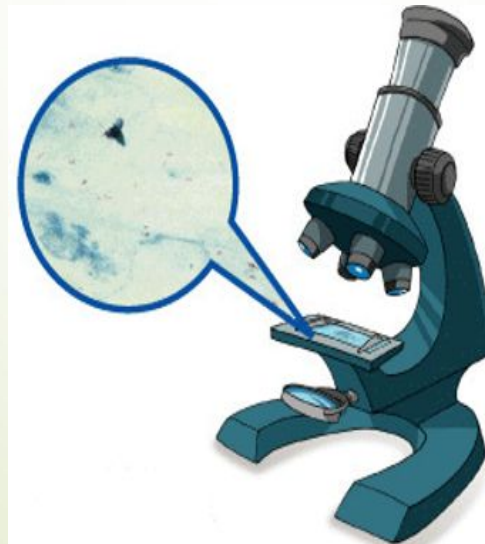
Chest X-Ray: Tuberculosis cavities

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5. Tuberculosis

Examination Methods

1. **X-Ray Lung Scan:** To confirm signs of tuberculosis.
2. **Sputum cytology:** Check whether there is bacteria present in the phlegm.
3. **Physical Examination:** Check whether there are any lesions (cavities) on the extrapulmonary TB.



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7-minute Tuberculosis Screening



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6. High-risk groups

1. Around 65 and above
2. Immunodeficient
3. Diabetic
4. Hemodialysis
5. Long usage of immunosuppressants, i.e. steroids
6. Vitamin deficiency
7. Pneumoconiosis

7. Tuberculosis Treatment

1. The treatment is complete after 6 months of medication, however side effects may prolong the treatment period.
2. When joining the public health's treatment plan: take medication every day, be aware of the side effects, completing treatment, consume regularly to prevent drug resistance.
3. During the treatment, the contagious factor can shrink. Generally, patients after undergoing treatment for 2 days, contagiousness drops to a 1/10, after 7 days it becomes 1/100, 2 weeks above there's almost no TB present.
4. Patients who undergo treatment don't require isolation throughout.

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Precautions for tuberculosis patients at home

1. Patients need to consume medicine on a timely manner, balanced-diet, get moderate exercise, get qualitative rest, and maintain a healthy work-life balance.
2. When about to sneeze or cough, use a handkerchief or a tissue to cover the nose or mouth; wrap the spat-out phlegm in a tissue, and dispose immediately.

Precautions for tuberculosis patients at home

3. Quilts and clothes should bask under the sun.

4. Maintain good air circulation in the room, keep the air dry, and it's best recommended to let in sunlight .



8. TB Contact Investigation

A. After confirming the case to be TB **within a month**, contact investigation is to be conducted.

B. Including:

1. Tenants who got in contact with the TB patient.
2. Infectious period starts **within the first 8 hours and above or extend up to an accumulated duration of up to 40 hours.**
3. Necessary to conduct contact examination that is dealt with separately.

C. Goal

1. Find other infected cases (TB)
2. Find developed but have not been issued patients (Lurking TB)



九、接觸者潛伏結核感染檢驗

Infected \neq TB develops (Not every people that get in contact with TB patients gets infected by the tuberculosis bacteria)

A. Conditions

1. Sick person's contagiousity.
2. Environmental factor: No air ventilation, etc.
3. The duration and intensity of exposure.

B. To determine on whether a TB patient is contaminated with TB bacterium:

1. Tuberculin Skin test (Index C(+) $MTB < 5$ year old patient): $> 10\text{mm}$ (Positive = TB)
2. Interferon Gamma Release Assay (IGRA) Examination: Positive = TB
 - (1) Index S(+) $C(+)$ $MTB \geq 5$ yrs old infected patient.
 - (2) Index S(-) $C(+)$ $MTB 5 \sim < 13$ yrs old infected patient.

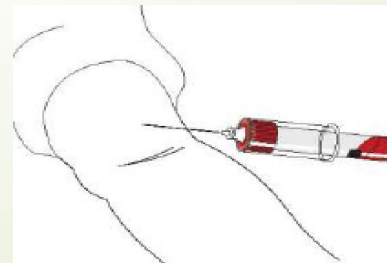


The Mantoux skin test consists of an intradermal injection of exactly one tenth of a milliliter (mL) of PPD tuberculin.



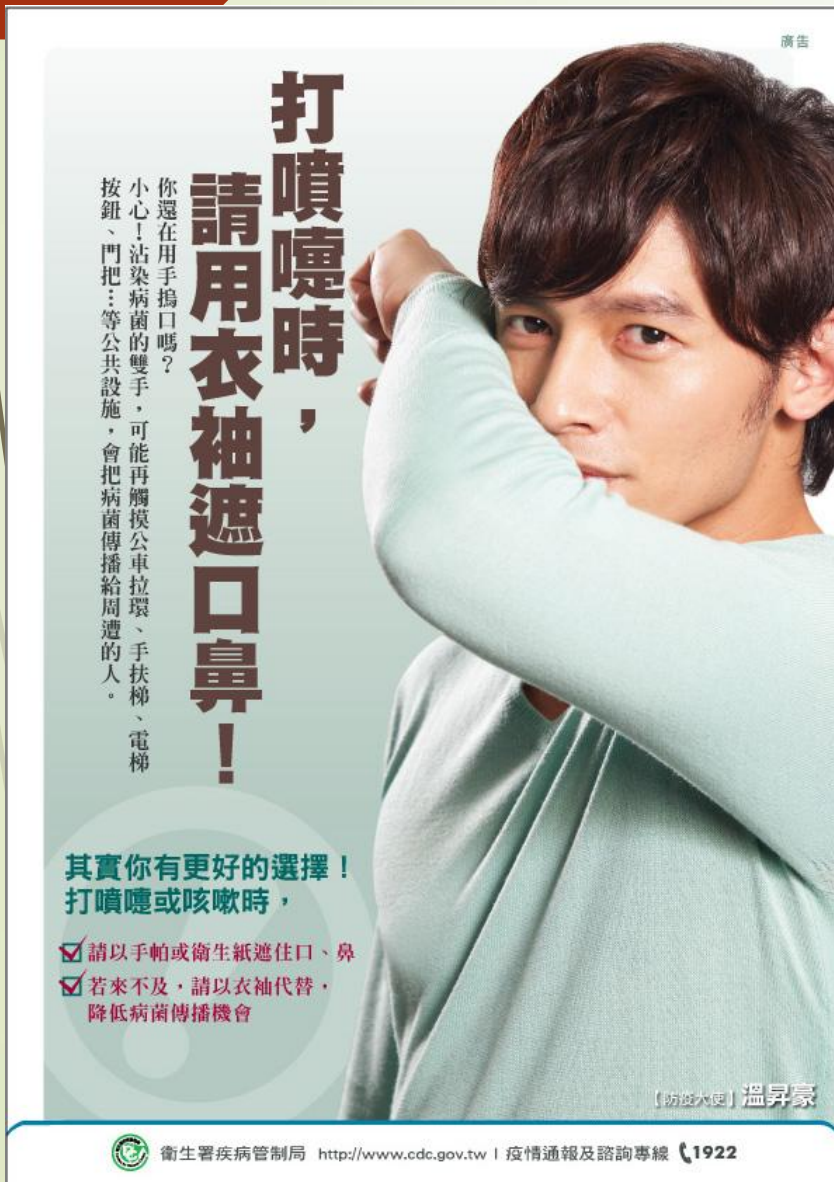
The size of induration is measured 48-72 hours later. Erythema (redness) should not be measured.

結核菌素皮膚試驗



丙型干擾素釋放試驗 IGRA 檢驗

10. Prevention of Tuberculosis



廣告

打噴嚏時，
請用衣袖遮口鼻！

你還在用手搗口嗎？
小心！沾染病菌的雙手，可能再觸摸公車拉環、手扶梯、電梯
按鈕、門把；等公共設施，會把病菌傳播給周遭的人。

其實你有更好的選擇！
打噴嚏或咳嗽時，

- ☑ 請以手帕或衛生紙遮住口、鼻
- ☑ 若來不及，請以衣袖代替，
降低病菌傳播機會

【防疫大使】溫昇豪

衛生署疾病管制局 <http://www.cdc.gov.tw> | 疫情通報及諮詢專線 1922

1. To enhance immunity by paying attention to nutrition intake, have a balanced diet and perform moderate exercises.
2. Maintain coughing etiquettes by using a mask when coughing
3. Go to the hospital when coughing for two weeks (Thorax, Infectious Disease Department) to get a quick sputum cytology, early detection and treatment prevents the spread of infection to family members and others.
4. According to the Contagiosity Index Case, cooperate with the health unit when undergo contact examination (Chest X-Ray, tuberculin skin test, IGRA), getting treatment early prevents infection.

11. Regulations on Tuberculosis

A. Respecting patient's privacy

1. **Infectious Disease Prevention and Control Act Article No. 10:** Government agencies, medical institutions, and other industries must not leak a patient's medical records and history with infectious diseases or is suspect of one.
2. Violations shall subject accordingly to Article No. 64: A **NT\$90,000 > NT\$450,000** fine will be imposed for imbreachment of law.



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2. Protecting basic rights from discrimination

1. **Article 11 of the Law on the Prevention and Control of Infectious Diseases**

The rights, dignity, and legitimate interests of patients with infectious diseases, healthcare workers, individuals undergoing isolation treatment, home quarantine, centralized quarantine, and their family members must be respected and protected without discrimination. Audio recordings, video recordings, or photography of these individuals are strictly prohibited without their explicit consent.

2. **Article 12 of the Law on the Prevention and Control of Infectious Diseases**

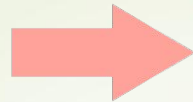
Government agencies, private organizations, enterprises, or individuals must not deny patients with infectious diseases access to education, employment, recovery facilities, housing, or subject them to unfair treatment. Exceptions apply only if restrictions are approved by the relevant authorities for the purpose of disease prevention and control.

3. **Penalties for Violations (Article 69)**


Violators may face a fine ranging from NT\$10,000 to NT\$150,000. If necessary, they may also be ordered to make improvements within a specified timeframe. Failure to comply within the given period may result in additional penalties on a case-by-case basis.



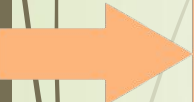
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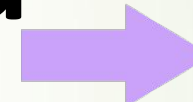


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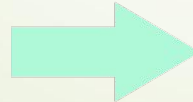
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for listening**



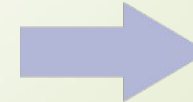
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