Aniah Matthews

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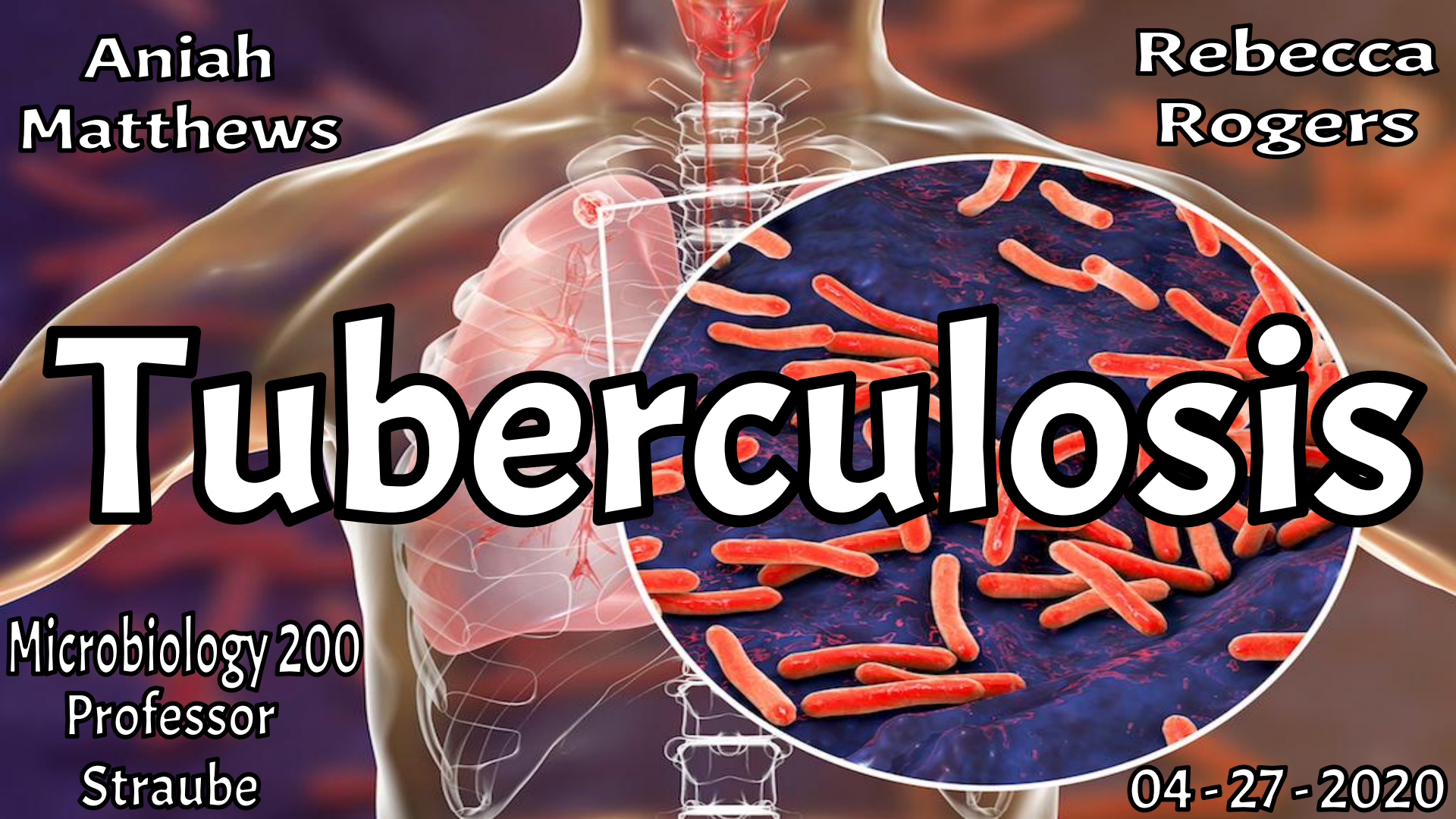
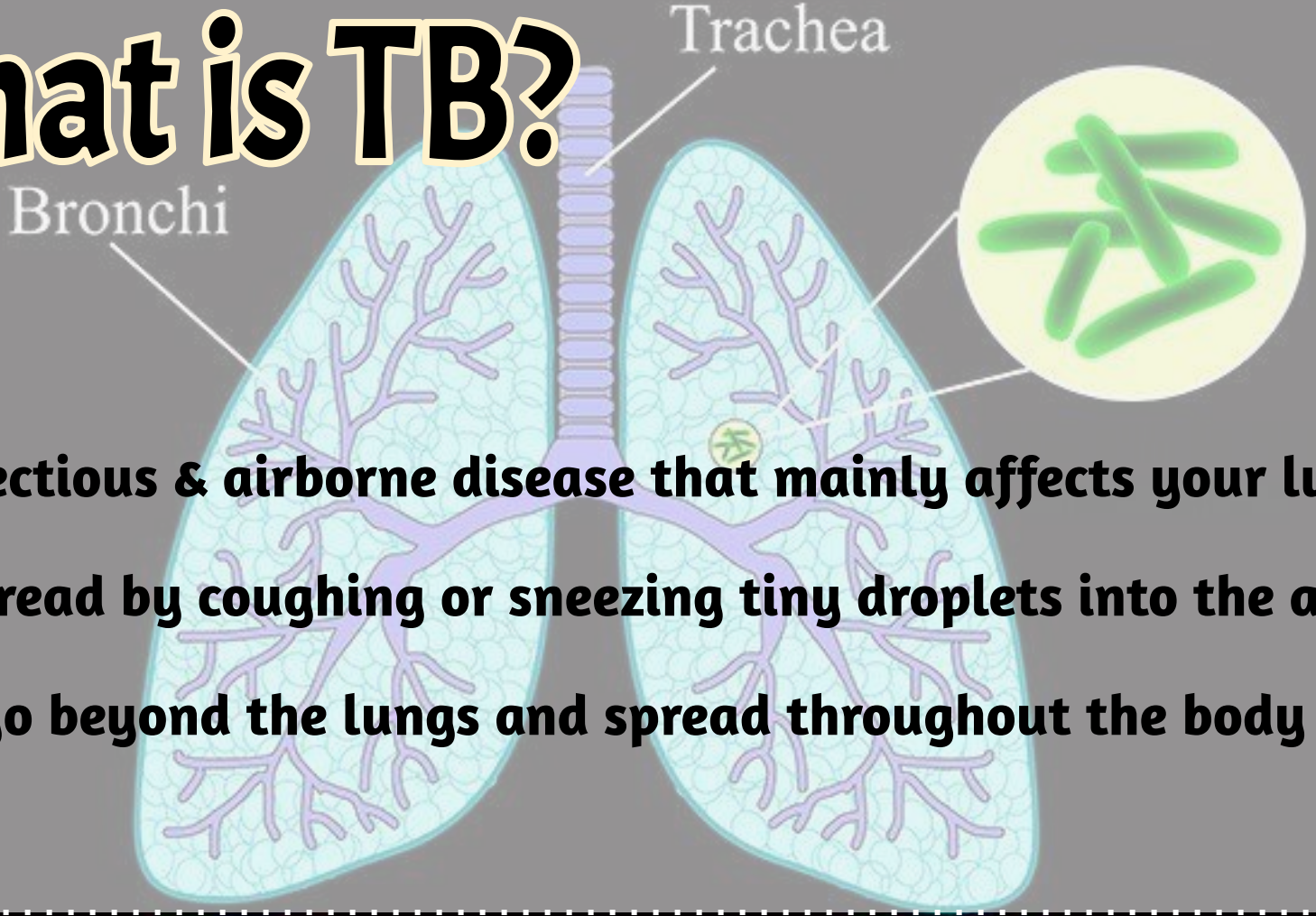
Tuberculosis



Microbiology 200
Professor Straube

04-27-2020

What is TB?



- An infectious & airborne disease that mainly affects your lungs
- It is spread by coughing or sneezing tiny droplets into the air
- It can go beyond the lungs and spread throughout the body

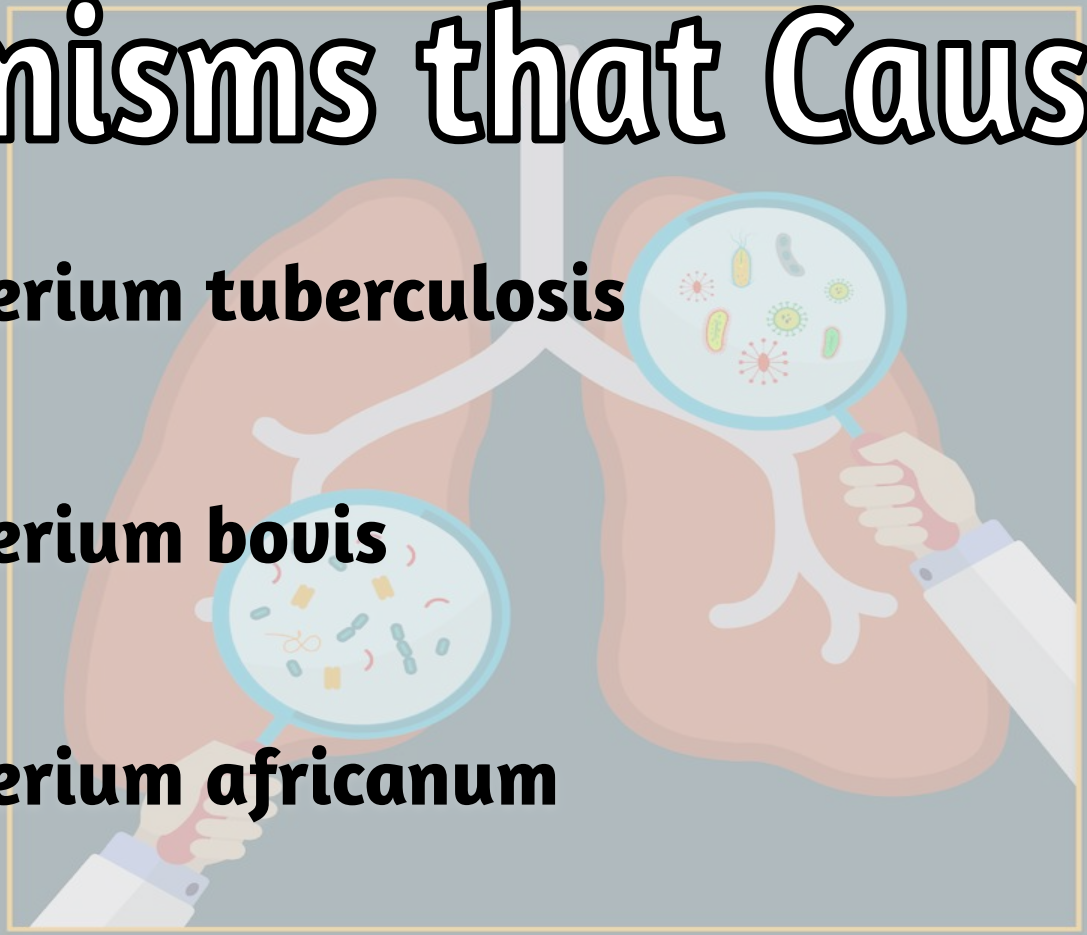
History of TB

- It is hypothesized that TB has been around for over 3 million years
- As seen with modern technology, current diversity among the strains originated between 250 and 1000 years ago
- Most of the understanding of TB came from Rene Laennec in 1819 where he outlined the pathology and physical signs of the infection, many of which are still used today

History of TB

- For a long time etiology was not known and it was considered a heritable disease
- In 1882, Robert Koch showed studies of the tubercle bacillus and used the Koch Postulates to show how the infection entered bodies
- Thanks to Koch, in the early 1900's a plethora of doctors and scientists worked to find antibiotics for the infection, testing patients who developed the infection as well as latent TB in children

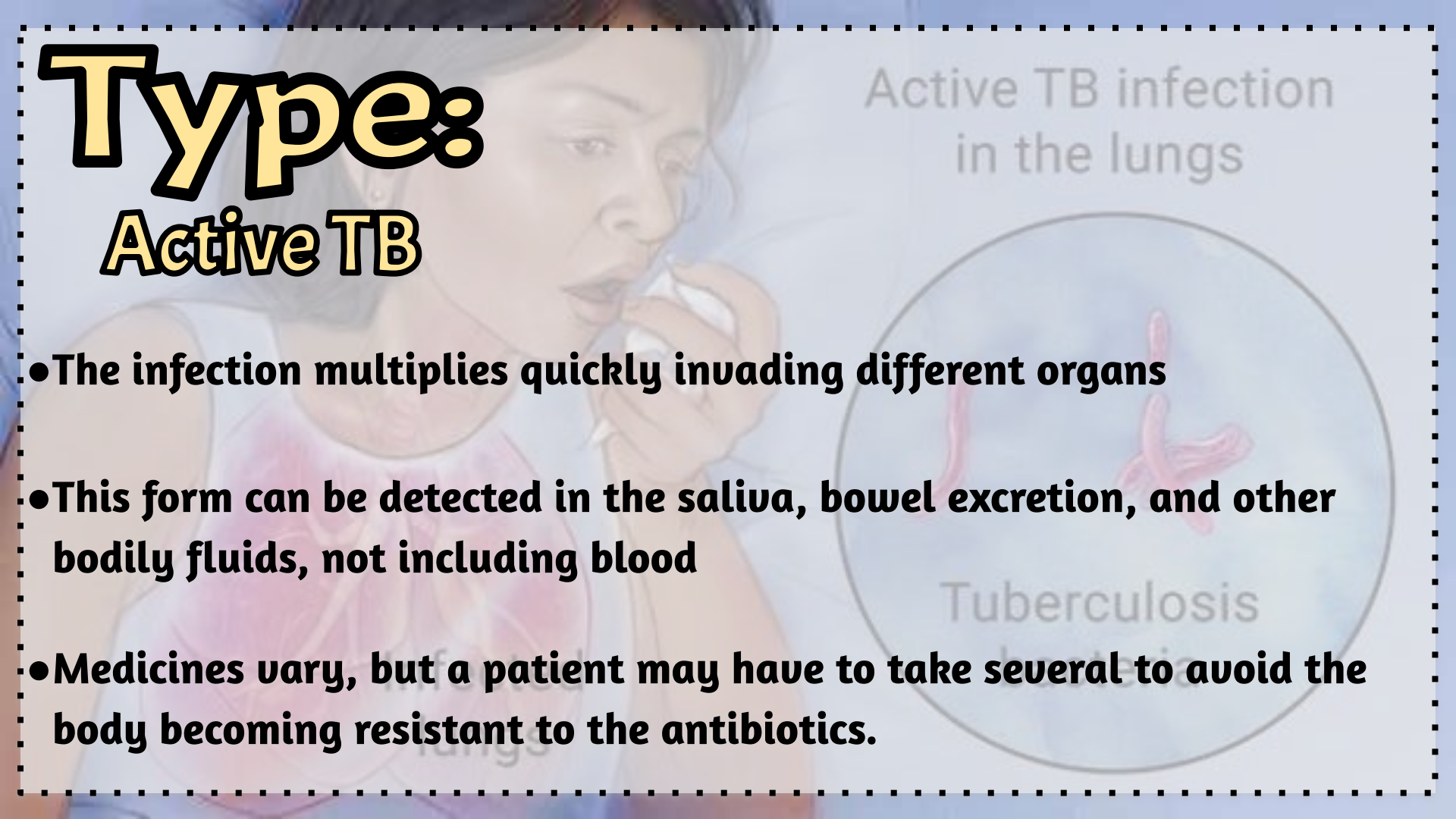
Organisms that Causes TB



- Mycobacterium tuberculosis
- Mycobacterium bovis
- Mycobacterium africanum

Type:

Active TB



- The infection multiplies quickly invading different organs
- This form can be detected in the saliva, bowel excretion, and other bodily fluids, not including blood
- Medicines vary, but a patient may have to take several to avoid the body becoming resistant to the antibiotics.

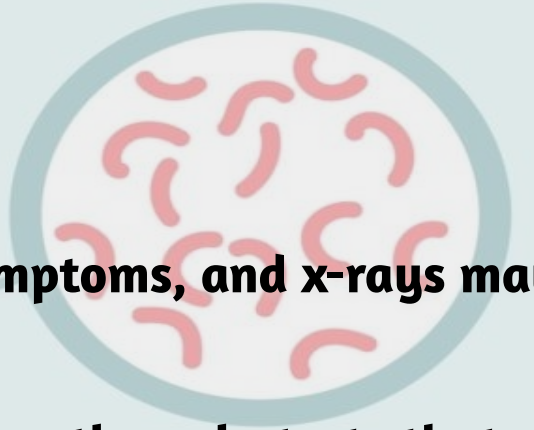
Type:

Miliary TB

- Military TB is a rare form and far more dangerous than active
- It infects the blood, it rapidly infects tiny nodes throughout the body, and effect multiple organs at once (lungs, liver, bone marrow, the tissues that cover the brain and spinal cord, and the two-layered membrane around the heart
- This form can be rapidly fatal if not diagnosed and treated very quickly

Type:

Latent TB



- This type is not overtly developed and show no symptoms, and x-rays may be normal
- Skin testing and interferon-gamma release assay are the only tests that will show positive for TB
- There is an ongoing risk that a patient can develop active TB, risk is increased by compromised immune systems
- To prevent latent to turning to active preventive therapy or treatment of latent TB are used

Type:

Drug Resistant

- Used to describe bacteria that has mutated to be able to fight off the antibiotic the patient is using

- It is a type of active TB and one of the reasons why it remains so deadly, this also explains why patients sometimes have multiple antibiotics to use.

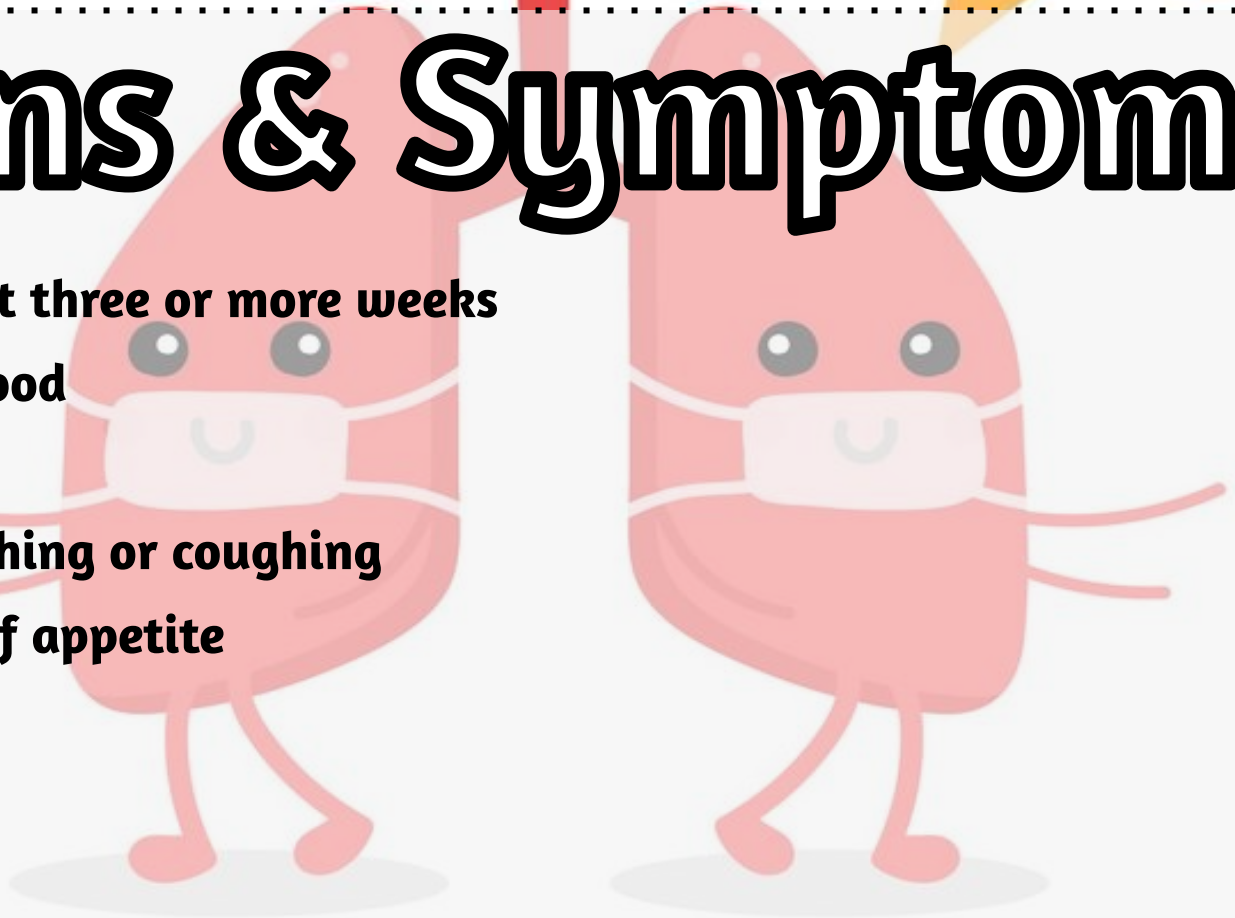
Type:
Abdominal

- Abdominal TB is found throughout the gastrointestinal tract and can be passed through the mouth up to the anus

- Pathogens can reach the gastrointestinal tract through reactivation from childhood, ingestion, or direct spread from adjacent organs

Signs & Symptoms

- Coughs that last three or more weeks
- Coughing up blood
- Chest pain
- Pain with breathing or coughing
- Fatigue & loss of appetite
- Fever
- Night Sweats
- Chills



Risk Factors

- Weakened immune system (diabetes, cancers, etc.)
- Traveling or living in certain areas
- Poverty (lack of medical care)
- Substance use (iv drugs or tobacco)
- Working in hospitals or healthcare

How it is Transmitted

- It is spread by person to person through droplets released into the air
- This is more common to happen if someone who is untreated and has the active TB coughs, speaks, sneezes, spits, laughs, or sings
- You are much more likely to obtain it from someone you know than a stranger
- Once someone with active TB has been treated with antibiotics for at least two weeks, they are no longer contagious

Thank You All :)

- We hope that everyone is staying safe and healthy. Congrats to those who are in their last semester and graduating. Good luck to everyone who is either transferring or continuing at HCC. We miss being at class and hope that this makes up for what we would have presented. Stay well everyone, much love! ♥

Sources

- https://www.mayoclinic.org/diseases-conditions/tuberculosis/symptoms-causes/syc-20351250
- https://www.researchgate.net/profile/Mahesh_Sharma15/publication/8200965_Abdominal_Tuberculosis/links/00463525775c7e7c8d000000.pdf
- https://www.nationaljewish.org/conditions/tuberculosis-tb/types
- https://www.sciencedirect.com/science/article/pii/S095461110600401X