Video Transcript: Latent TB with Dr. Willeford

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Hello, my name is Wesley Willeford and I'm the
Deputy Health Officer of the Jefferson County

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Department of Health and today I'd like to talk to
you about tuberculosis infection. So let's move on

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and let's go over our overview of what we'll be
talking about today. So firstly we'll talk about

0:00:16.239,0:00:21.999
what is tuberculosis infection. Then we'll talk
about how does someone get tuberculosis infection.

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We'll talk about how common tuberculosis
infection is. Can tuberculosis infection

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turn into TB disease? How do we diagnose TB
infection? And we'll talk about how whether

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or not TB infection should be treated. And then
we'll end with the summary of that information.

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So let's start with the first question. What is TB
infection or latent TB? TB infection means that a

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person has been infected with the bacteria
that causes tuberculosis and we call that

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mcoacterium tuberculosis. That's a scientific
name for the bacteria. So with TB infection,

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a person does not feel sick and cannot
spread the bacteria onto other people. But

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it's important that we compare that with another
important term and that is tuberculosis disease.

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When we say this, it means a person

has been infected with tuberculosis

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and they feel sick and have tuberculosis
bacteria causing problems somewhere in

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their body and they may also be able
to spread it from person to person.

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Now I want to talk about this image that you see
here before you just to give you a better visual

0:01:30.239,0:01:36.399
representation of that information. So latent TB
or TB infection you'll see on the left and what

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you'll notice is a small circle on the bottom left
part of the lung that represents an area where the

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body our immune system has walled off tuberculosis
infection and essentially put it in a cage. On the

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right we'll see active TB or TB disease. And what
that represents is the area showing what happens

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when that cage breaks down. when the TB bacteria
begin to go to other parts of our lung and cause

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problems. So let's move on to our next question
of how does someone get TB infection? TB infection

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occurs when someone with TB disease breathes,
coughs, sneezes and the bacteria in their lungs

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is put out into the air. Another person will come
along and breathe that air in and that starts the

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process. When when the tuberculosis bacteria
are breathed into our lungs, what we see is the

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body can actually kill a lot of those bacteria,
but it often is not able to kill every single

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one of them. For the ones that cannot be killed,
what we see is the body walls off those bacteria

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and places them in a cage. While they're in that
cage, they're not able to cause problems. They're

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they're kept in control. Um, and so that's our
immune system that's being able to capture them

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in this way. So let's move on to our next question
of how common is TB infection. So TB infection

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unfortunately is very common about 1.7 billion
people around the world are thought to have TB

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infection and with a population of 8.3 billion
people in the world that translates to about one

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out of every five people having TB infection and
that is a very large number of people. So next,

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let's talk about whether or not TB infection can
turn into into TB disease. And unfortunately,

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it surely can. TB infection does turn into TB
disease. It happens to about five to 15 out of

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every 100 people who have TB infection. So not
everyone, but a fair fairly large percentage of

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people. Um whenever that transformation happens,
whenever it goes from TB infection to TB disease,

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what we have is reactivation. And this
reactivation usually happens about 2 to 5

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years after being exposed to tuberculosis. So it
it can take a while but when it happens a person

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becomes very ill. So now let's talk about how

we diagnose TB infection. TB infection can be

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diagnosed with two main tests. The first one is
our TB skin test which an old and reliable test.

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uh what happens with it is a substance is injected
under the skin and we look to see if a the body

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reacts to it. If the body has a reaction that's
a good indicator that the person has been exposed

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to tuberculosis in the past. The other test is
our iiggra or interferon gamma release assay

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or IG test. Uh this test is a blood test that
basically is able to determine if a person has

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been exposed to tuberculosis in the past. Usually
when we're doing this workup, we also get a chest

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X-ray just to make sure that a person does not
have TB disease actively in their lungs. We want

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to rule that out before we start thinking about
treatment. So now let's move on to whether or not

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we should treat someone who's infected uh with TB.
And the answer is yes. If you have TB infection,

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we recommend that a person be treated for that.
Why do we say that? So firstly, the medications

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are safe. They're readily available and they're
very well tolerated and we have lots of experience

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with those medications. Secondly, treating TB
infection can reduce the chances of a person going

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on to have tuberculosis disease by up to 90%. That
is a very large reduction and that really helps

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to preserve a person and keep them from having
this more severe consequence of tuberculosis.

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So in summary, TB infections occur when a person
is exposed to the TB bacteria and while many of

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the bacteria may be eliminated by our body, some
of them can persist and stay in our body. However,

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our body is able to wall them off and keep them
contained. When a person has this TB infection,

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uh they really have no symptoms. They
can feel perfectly normal and they are

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not not able to pass that infection
on to other people. Unfortunately,

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TB infection can go on to become TB disease
through the process of reactivation. And so

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what we want to do is we want to prevent
that reactivation. So we will recommend

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TB medications to be given to a person with
TB infection to prevent them from going on

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to have the much more severe and much and
sometimes more debilitating TB disease.

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I want to thank everyone for taking time to listen
to the presentation. I want to ref show you my