# V-VICTA®

VirTra - Virtual Interactive Coursework Training Academy®

## *INFECTIOUS DISEASES*

Training Manual

VirTra

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## TRAINING COURSE CERTIFICATION

This "Infectious Diseases" training course, developed by VirTra, has been certified by the IADLEST National Certification Program™ on __/__/_____

Certification number: TBA

## TOPIC

Infectious Diseases

## ESTIMATED TIME

4 hours

- Pre-test and Intro (10 Minutes)
- Lecture plus questions/discussion (30 Minutes)
- Break (10 Minutes)
- 3 Scenarios plus debrief (20 minutes/student)
- Written test (15 Minutes)

## PERFORMANCE OBJECTIVES

At the end of 4 hours, students will be able to:

- Identify the signs and symptoms of certain infectious diseases.
- Demonstrate the proper way to interact with those who may be infected.
- Identify proper use of personal protective equipment.
- Understand the risk of transmission of certain infectious diseases.

## CLASS SIZE

Designed maximum class size of 10. If class size is smaller than 8 (4 pairs) scenarios can be cycled through quickly.

The following training plan and lesson plan is designed to be used with the VirTra simulator. Whereas many of the techniques have been used over many years in LE, this training plan maximizes training time and leverages the strengths of the VirTra training system.

The instructor shall first ensure that students are familiar with the presented material. The outline provides the overview and is provided to supplement and provide context to the use of the simulation scenarios.

The simulation scenarios are used as a tool to facilitate the understanding of the concepts. The first scenarios will be provided in a slower tempo with the use of the PLAY/PAUSE feature to elaborate on the training points. Once the first simulation is provided in this format the remaining scenarios will be provided to each pair of officers. The Socratic methodology should be used for event debriefing.

*“What did you know?”*
*“What did you see or hear?”*
*“What did you do and the reason behind it?”*
*“What would you do differently in the future?”*

All officers will be allowed to watch the others participate in the exercise. This is done to maximize the benefit of modeling for adult learners.

## SCENARIO BANK TO BE USED

- No Mask No Milkshake
- Traffic Stop Contamination
- Vaccination Confrontation

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## I. INSTRUCTOR INTRODUCTION

The instructor will introduce themselves to the class. This intro should be no more than 2-3 minutes long and establish why they are qualified to teach the course and how long they have been with the organization. This not a moment to brag, but to build confidence and trust from the attending students. Additionally, instructors should take questions at the end of each section, including at the very end of the course.

## II. INTRODUCTION TO INFECTIOUS DISEASES

(Slides 4 & 5) There are many organisms that live in and on our bodies. Some of these organisms are harmless and some can be beneficial. Other organisms, under certain conditions may cause disease. Infectious diseases are disorders that are caused by organisms such as bacteria, viruses, fungi or parasites. Under certain conditions Infectious diseases can be passed from person to person. Some diseases are transmitted by insects or other animals and you may get others by consuming contaminated food or water or by being exposed to organisms in the environment. Signs and symptoms of infectious diseases can vary depending on the organism causing the infection. Some infections may respond to rest and home remedies, while other more life-threatening infections may need hospitalization. Often times, infectious diseases, can be prevented by vaccines. Frequent and thorough hand-washing also helps protect you from most infectious diseases.

## III. CAUSES

Slides 7-10

### A. BACTERIA

Bacteria are single-celled microorganisms that thrive in many different types of environments. Some varieties live in extremes of cold or heat. Others make their home in people's intestines, where they help digest food. Most bacteria cause no harm to people, but there are exceptions. Infections caused by bacteria include Strep throat, Tuberculosis, MRSA and food poisoning.  Inappropriate use of antibiotics has helped create bacterial diseases that are resistant to treatment with different types of antibiotic medications.

### B. VIRUSES

Viruses are even smaller than bacteria and require living hosts such as people, plants or animals to grow. Without a living host the virus cannot survive. When a virus enters your body, it invades some of your cells and takes over the cell machinery, redirecting it to produce the virus. Some common viral infections include Chickenpox, the common cold and COVID-19. In some cases, it may be difficult to determine whether a bacterium or a virus is causing your symptoms. Many ailments such as pneumonia, meningitis and diarrhea can be caused by either bacteria or viruses.

### C. FUNGI

Many skin diseases, such as ringworm and athlete's foot, are caused by fungi. Other types of fungi can infect your lungs or nervous system.

### D. PARASITES

Parasites are microscopic living organisms that require a host - human or animal - to feed themselves and survive. Malaria is caused by a tiny parasite that is transmitted by a mosquito bite. Other parasites may be transmitted to humans from animal feces.

## IV. TRANSMISSION

Slides 12 & 13

### A. DIRECT CONTACT

1. **Person to person**. Infectious diseases commonly spread through the direct transfer of bacteria, viruses or other germs from one person to another. This can happen when an individual with the bacterium or virus touches, breathes, or coughs or sneezes on someone who isn't infected. Germs can also spread through the exchange of body fluids. The person who passes the germ may have no symptoms of the disease, but may simply be a carrier.

2. **Animal to person.** Being bitten or scratched by an infected animal — even a pet — can make you sick and, in extreme circumstances, can be fatal. Handling animal waste can also be hazardous.

3. **Mother to unborn child**. A pregnant woman may pass germs that cause infectious diseases to her unborn baby. Some germs can pass through the placenta or through breast milk.

### B. INDIRECT CONTACT

Many germs can linger on an inanimate object, such as a tabletop, doorknob or faucet handle. When you touch a doorknob handled by someone ill with the flu or a cold, for example, you can pick up the germs he/she left behind. If you then touch your eyes, mouth or nose before washing your hands, you may be come infected.

1. **Insect bites**. Some germs rely on insect carriers — such as mosquitoes, fleas, lice or ticks — to move from host to host. These carriers are known as vectors. Mosquitoes can carry the malaria parasite or West Nile virus. Deer ticks may carry the bacterium that causes Lyme disease.

2. **Food contamination**. Disease-causing germs can also infect you through contaminated food and water. This mechanism of transmission allows germs to be spread to many people through a single source. Escherichia coli (E. coli), for example, is a bacterium present in or on certain foods such as undercooked meat or unpasteurized fruit juice.

## V. RISK FACTORS

(Slide 15) You may be more likely to contract an infectious disease if your immune system isn't working properly. Some common reasons for a compromised immune system include the following:

A. Use of steroids or other medications that suppress your immune system.
B. You work in a high-risk environment with poor sanitation or limit access to clean water.
C. You have certain types of conditions that may predispose you to infection, including implanted medical devices, malnutrition and extremes of age, among others.
D. You are not wearing your personal protection equipment (PPE) properly.

## VI. PREVENTION

(Slides 17 & 18) Follow these tips to decrease the risk of infection:

A. **Wear PPE properly.** The use of personal protective equipment is essential in the prevention of infection. This includes this includes the use of Nitril gloves, face masks and eye protection as infectious diseases can enter your system through any place where your mucus membranes are exposed to the environment.

B. **Avoid touching touch your eyes, nose or mouth with your hands.** This is another common way for germs to enter the body.

C. **Get vaccinated.** The CDC recommends the following vaccinations for first responders:

1. Tetanus: The Td (tetanus/diphtheria) or Tdap (tetanus/diphtheria/pertussis) can be used; getting the Tdap formula for one tetanus booster during adulthood is recommended to maintain protection against pertussis.
2. Hepatitis B: Hepatitis B vaccine series is recommended for persons who will be performing direct patient care or are otherwise expected to have contact with bodily fluids.

D. **Stay home when ill.** Don't go to work if you are vomiting, have diarrhea or have a fever. Your immune system is likely weakened and you be putting yourself at risk if exposed to infected items or people.

E. **Don't share personal items**. Use your own pen, flashlight and other hand-held gear. Don't allow the general public to use your personal pen for signing documents.

F. **Wash your hands frequently**. Wash your hands or use an alcohol-based hand sanitizer frequently during your shift. The CDC recommends the following five guidelines:

1. Wet your hands with clean, running water (warm or cold), turn off the tap, and apply soap.
2. Lather your hands by rubbing them together with the soap. Lather the backs of your hands, between your fingers, and under your nails.
3. Scrub your hands for at least 20 seconds.
4. Rinse your hands well under clean, running water.
5. Dry your hands using a clean towel or air dry them.

## VII. COVID-19

(Slides 20-22) In late 2019 a new virus called the severe acute respiratory syndrome Coronavirus 2 (SARS-CoV-2) was identified as the cause of a disease outbreak that began in China. The disease is called the coronavirus disease 2019 or COVID-19. By March of 2020, the World Health Organization (WHO) declared COVID-19 a pandemic.

Public health groups, including the U.S. Centers for Disease Control and Prevention (CDC) and WHO have issued recommendations for preventing the spread of the virus. Data shows that the virus that causes COVID-19 mainly spreads from person to person among those in close contact. The main way that the virus is spread through respiratory droplets released when someone who is infected coughs, sneezes or talks. Tiny droplets can then be inhaled or land in the mouth or nose of a person nearby and infect them. Although not as common, it can also be spread if a person touches a surface with the virus on it and then touches his or her face.

## A. COVID-19 SYMPTOMS

COVID-19 symptoms can range from very be mild to severe. With some people have no symptoms. This list is not all inclusive and other less common symptoms have also been reported. Generally speaking, symptoms may appear two to 14 days after exposure. The most common symptoms are:

1. Fever
2. Cough
3. Fatigue

Other symptoms may include:

1. Shortness of breath
2. Muscle aches
3. Chills
4. Sore throat
5. Headache
6. Chest pain
7. Loss of taste or smell

## B. COVID-19 PREVENTION

At the time of this writing there is currently no vaccine available to prevent COVID-19. The best way to prevent illness is to avoid being exposed to the COVID-19 virus. As first responders, contact with sick subjects may be unavoidable. The CDC and WHO recommend following these precautions:

1. Wear a mask, gloves and eye protection while conducting law enforcement duties.
2. Keep at least 6 feet (2 meters) of distance between yourself and subjects that you may encounter in the field.
3. Wash your hands often with soap and water for at least 20 seconds, or use an alcohol-based hand sanitizer that contains at least 60% alcohol
4. Avoid touching your eyes, nose and mouth.
5. Clean and disinfect surfaces you often touch on a daily basis.

You also may want to talk with your doctor if you have health conditions that make you more susceptible to respiratory infections and complications.

## C. COVID-19 INFECTION & EXPOSURE

If you develop symptoms or you've been exposed to the COVID-19 virus, contact your doctor. If you need to go to the doctor, call ahead so that health care providers can take steps to ensure that others aren't exposed. Take the following precautions to avoid spreading the virus:

1. Stay home from work, school and public areas, except to get medical care.
2. Avoid public transportation, taxis and ride-sharing if possible.
3. Wear a cloth face mask around other people.
4. Isolate yourself as much as possible from others in your home.
5. Use a separate bedroom and bathroom if possible.
6. Avoid sharing dishes, glasses, bedding and other household items.

## VIII. HEPATITIS A

(Slides 24-27) Hepatitis A is caused by a virus that infects liver cells and causes inflammation. The inflammation can affect how your liver works and could cause other signs and symptoms. Most commonly the transmission of the Hep A virus is the oral-fecal route when an uninfected person eats or drinks something contaminated with fecal matter from an infected person. The virus does not spread through sneezing or coughing. While exposure to Hep A is rare for first responders, it is not outside the realm of possibility if the food you eat has been tampered with or prepared in a restaurant by an employee carrying the virus.

### A. HEP. A SYMPTOMS

The incubation period for Hepatitis A is usually 14–28 days after exposure and symptoms can range from mild to severe. The severity of the disease and fatal outcomes are higher in older age groups and adults usually have signs and symptoms of illness more often than children. Unlike other types of viral hepatitis, hepatitis A does not cause long-term liver damage, and it doesn't become chronic. In rare cases, hepatitis A can cause a sudden loss of liver function, especially in older adults or people with chronic liver diseases. According to the World Health Organization symptoms of an infection include the following:

1. Fever
2. Malaise
3. Loss of appetite
4. Diarrhea
5. Nausea
6. Abdominal discomfort
7. Dark-colored urine
8. Jaundice (yellowing of the skin and whites of the eyes)

### B. HEP. A PREVENTION

Hepatitis A is commonly found in persons who are experiencing homelessness, are or were recently incarcerated, and people who travel in countries with high Hep A endemicity. Other risk factors include people with chronic liver disease and men who have sex with other men. Foodborne Hepatitis A outbreaks are relatively uncommon in the United States. Immune globulin shots are effective in preventing the spread of hepatitis A if given within 14 days of exposure. The CDC recommends the following safety precautions:

1. First responders should always assume that in all contacts with subjects the individual is infectious.
2. Precautions apply to contact with all body fluids including Blood, Saliva and feces whether they contain visual blood or not.
3. Frequent hand washing, appropriate personal protective equipment such as gloves, masks, and eye protection be used whenever touching or exposure to any subject's body fluids is anticipated.

### C. HEP. A INFECTION & EXPOSURE

If you think that you may have been exposed to the Hepatitis A virus you should contact your doctor to establish a good treatment plan. While no specific treatment exists for hepatitis A, the Immune globulin shot has been shown to be effective to prevent spreading the virus if given within 14 days of exposure. According the Mayo Clinic, your body will most likely clear virus on its own. In most cases of exposure, the liver will need about six months to heal. You may need to stay in the hospital for a short time if you get dehydrated, have severe pain, suddenly become confused, or develop bleeding problems.

Treatment plans usually focus on keeping comfortable and controlling your signs and symptoms. During this time, you will probably feel tired, weak and nauseous. To help your liver heal, you should get plenty of

rest, eat a balanced diet and avoid alcohol and acetaminophen. It will be important to discuss with your doctor any prescriptions, over-the-counter medicines, or vitamin supplements that you may be taking. Alcohol, acetaminophen,and certain other medicines can cause more damage to your liver. Take the following precautions to prevent the spread of the virus to family members, loved ones and co-workers:

1. Get plenty of rest and stay home from work, school and public areas except to get medical care.
2. Wash your hands throughly and frequently.
3. Isolate yourself as much as possible from others in your home.
4. Use a separate bedroom and bathroom if possible, and keep it clean.
5. Avoid sharing dishes and glasses.
6. Keep your follow-up appointments with your doctor.

## IX. HEPATITIS B

(Slides 29-32) Hepatitis B is a serious liver infection caused by the Hepatitis B virus (HBV). The virus is passed from person to person through body fluids. It is not uncommon for the virus to infect first responders through accidental needle sticks or if someone who is infected spits in your face. Acute Hep B usually lasts less than six months and there is good possibility that your own immune system can clear the virus. 90% of adults who have become infected with the Hepatitis B virus successfully fight off the infection and once the virus is cleared from the body you are immune. In Chronic cases the virus lasts longer than six months because your body was not able to clear the infection. Chronic Hepatitis B may last a lifetime and can increases your risk of developing liver failure, liver cancer or cirrhosis of the liver (a condition that can permanently scar the liver).

### A. HEP. B SYMPTOMS

If you think you've been exposed to Hepatitis B, contact your doctor immediately. A preventive treatment may reduce your risk of infection if you receive the treatment within 24 hours of exposure. Signs and symptoms of Hepatitis B can range from mild to severe. Symptoms usually appear about one to four months after you've been infected, although you could see them as early as two weeks post-infection. Some people (usually young children), may not show any symptoms. According to the Mayo Clinic signs and symptoms of Hepatitis B may include the following:

1. Abdominal pain
2. Dark urine
3. Fever
4. Joint Pain
5. Loss of appetite
6. Nausea and vomiting
7. Weakness and fatigue
8. Jaundice

### B. HEP. B PREVENTION

The CDC recommends the Hepatitis B vaccination for all public safety personnel with reasonably anticipated risk for exposure to blood or blood contaminated body fluids. The vaccination is administered in 3 doses. After the first dose the next injection is given 1 to 2 months later. The final dose is given 4 to 6 months later allowing for a 16-week interval between the first and last dose. If personnel fall behind on the vaccination schedule, they are encouraged to continue with the series from the last dose, in other words, the series will not need to be restarted. If you are traveling to a country where Hepatitis B is prevalent speak with your doctor about the vaccine well in advance of your travel plans. Universal Safety precautions can help to prevent infection. Universal Safety precautions include the following:

1. First responders should always assume that in all contacts the individual is infectious.
2. The use of cut and puncture resistant gloves
3. Use of other appropriate personal protective equipment such as masks and eye protection should be used whenever pat downs or in anticipation of exposure to any subject's body fluids.

### C. HEP. B INFECTION & EXPOSURE

If you have been exposed to Hepatitis B you should contact your doctor immediately. Your doctor may choose to administer the Hepatitis B Immune globulin (HBIg) shot. The HBIg shot is different from the vaccine. It contains large amounts of hepatitis B antibodies taken from donated human blood. It is given when immediate protection against hepatitis B is needed if the patient has not been vaccinated for hepatitis B prior to exposure. The HBIg should only provide short-term protection. The shot can be administered up to 2 weeks after exposure but it preferably done within the first 24 hours of exposure. Common reactions to HBIg may include soreness where the immunization was given. Headache, fever, nausea, sore muscles or joints, diarrhea, and hives and swelling.

## X. HEPATITIS C

(Slides 34-38) Hepatitis C is a liver infection caused by the hepatitis C virus. Hepatitis C Symptoms can range from a mild illness lasting only a few weeks to a serious, long-term condition. Infections are classified as "acute," or "chronic." Acute infections occur within the first 6 months of exposure. Acute infections can be short-term but for most people, acute infection leads to chronic infection. Chronic hepatitis C can be a lifelong infection if left untreated. Chronic hepatitis C can cause serious health problems, including liver damage, cirrhosis, liver cancer, and even death. Chronic cases are usually curable with oral medications taken every day for two to six months. Acute hepatitis C infection doesn't always become chronic. Some people clear HCV from their bodies after the acute phase, an outcome known as spontaneous viral clearance. About half of people with hepatitis C don't know they're infected because they have no symptoms. In some cases, symptoms can take decades to appear. First responders are at risk of exposure when making contact with individuals from the following high-risk categories:

A. Intravenous drug users.
B. Persons who have received a piercing or tattoo in an unclean environment using unsterile equipment.
C. Persons who are or were ever in prison.
D. People with HIV

### A. HEP. C SYMPTOMS

According to the U.S. Department of Health and Human Services more than 3 million Americans living with Hepatitis C don't know that they have it. Many people can go for decades not knowing that they have the virus. The longer the virus is in your system the greater the odds of permanent liver damage. Symptoms of Hepatitis C include the following:

1. Bleeding and bruising easily
2. Fatigue
3. Poor appetite
4. Jaundice
5. Dark-colored urine
6. Itchy Skin
7. Fluid buildup in the abdomen

8. Swelling of the legs
9. Weight loss
10. Confusion
11. Drowsiness

### B. HEP. C PREVENTION

Because the Hepatitis C virus has many more variables than the Hepatitis A and B viruses there is currently no vaccine to protect against infection. Universal Safety Precautions should always be practiced by first responders contacting individuals in the high-risk category. Universal Safety precautions include the following:

1. Assume that all people that you come into contact with are infected.
2. Use appropriate personal protective equipment such as gloves, masks, and eye protection when ever conducting pat downs or in anticipation of exposure to any subject's body fluids.
3. Use cut and puncture resistant gloves when conducting pat down searches.

### C. HEP. C INFECTION & EXPOSURE

If you have symptoms of Hepatitis C or think you may have been exposed contact your doctor and make an appointment to be tested. A simple blood test called an HCV antibody test is used to determine if you have ever been infected with the virus. Test results will be either "non-reactive," meaning that you are not currently infected with the hepatitis C virus or "reactive," which means you have been infected at some point in time. If your test comes back reactive your doctor will order additional test to determine if you currently have the virus in your blood and are infectious to others. Current treatments usually involve just 8–12 weeks of oral therapy and cure over 90% of those infected with few side effects. Although there is no vaccine for hepatitis C, your doctor will likely recommend that you receive vaccines against the hepatitis A and B viruses as they also effect liver function.

## XI. HIV

(Slides 39-45) Human Immunodeficiency Virus (HIV) is a virus contracted from an infected person's body fluids. HIV is a fragile virus and is easily killed by hot water, soap, bleach and alcohol. The virus can only last outside the body as long as blood or body fluid remains liquid. In order to contract the disease infected body fluids must come in contact with an uninfected person's blood. There are currently more than one million people in the United States living with HIV/AIDS. Only about one in 300 of HIV exposure incidents (needle stick or cut) results in transmission of the disease. There has been no case to date where an individual has been infected with HIV via contact with an environmental surface.

### A. HIV SYMPTOMS

Some people infected by HIV develop a flu-like illness within two to four weeks after the virus enters the body. It is possible for symptoms to be so mild that individuals might not even notice them; however, the amount of virus in your bloodstream is high during this time frame and the infection spreads more easily. This stage of infection is known as primary (acute) HIV infection and could last for a few weeks. Possible signs and symptoms include:

1. Fever
2. Headache

3. Muscle aches and joint pain
4. Rash
5. Sore throat and painful mouth sores
6. Swollen lymph glands, mainly on the neck
7. Diarrhea
8. Weight loss
9. Cough
10. Night sweats

The next stage of infection is the clinical latent infection or (Chronic HIV). During chronic HIV, some people may not have any symptoms. The chronic HIV stage can last for several years and if left untreated and can progress to Symptomatic HIV infection. During the Symptomatic HIV stage, the virus has continued to multiply and destroy the immune system. Some signs and symptoms of this stage may include:

1. Fever
2. Swollen lymph nodes
3. Diarrhea
4. Weight loss
5. Oral yeast infection (thrush)
6. Shingles
7. Pneumonia

The final stage of infection is when it progresses to acquired immune deficiency syndrome or AIDS. When AIDS occurs, the immune system has been severely damaged and people are more likely to develop opportunistic infections, cancers and other diseases that wouldn't normally affect those with a healthy immune system. The signs and symptoms of some of these infections may include:

1. Sweats
2. Chills
3. Recurring fever
4. Chronic diarrhea
5. Swollen lymph glands
6. Persistent white spots or unusual lesions on your tongue or in your mouth
7. Persistent, unexplained fatigue
8. Weakness
9. Weight loss
10. Skin rashes or bumps

## B. HIV PREVENTION

There is currently no vaccine to protect against infection with HIV or AIDS. As with all other bloodborne pathogens Universal Safety Precautions should always be practiced by first responders contacting individuals in high-risk categories. Universal Safety precautions include the following:

1. Assume that all people that you come into contact with are infected.
2. Use appropriate personal protective equipment such as gloves, masks, and eye protection when ever conducting pat downs or in anticipation of exposure to any subject's body fluids.
3. Use cut and puncture resistant gloves when conducting pat down searches.

## C. HIV INFECTION & EXPOSURE

If you believe that you may have been infected with HIV it is important that you get tested. Tests can be conducted in any number of locations including hospital emergency rooms, family planning offices,

community health centers and in your doctor's private clinic. Because HIV can take up to 3 months to show up on tests, it is important to repeat the test after the first 3 months of the suspected exposure. Post-exposure prophylactic medications can be used in emergency situations lowering the risk of HIV infection by more than 90%. The sooner the better. Ideally treatment with prophylactic medications should begin within the first 32 hours of exposure.

## XII. TUBERCULOSIS

(Slides 47-50) Tuberculosis (TB) is a potentially serious infection that affects the lungs. The bacteria are passed from one person to another by microscopic droplets released into the air when a person with Active TB coughs or sneezes. Tuberculosis can be fatal if left untreated. In its latent form bacteria remains in an inactive state and may cause no symptoms. Latent, or inactive TB is not contagious but it is important to receive treatment as it can progress and become active. Active TB is contagious and can occur within the first few weeks to 3 months of being exposed to the bacteria that causes the infection.

### A. TB SYMPTOMS

Depending on where the bacteria are growing in the body, symptoms of TB can vary; however, because the virus is spread from person through the air it most often affects the lungs. Tuberculosis can also affect other parts of your body including your kidneys, spine or brain. For example, tuberculosis of the spine may give you back pain, and tuberculosis in your kidneys might cause blood in your urine. Symptoms of TB disease in the longs may include the following:

1. A bad cough that lasts more than 3 days
2. Chest pain
3. Coughing up blood or phlegm
4. Weakness and fatigue
5. Weight loss
6. Loss of appetite
7. Chills
8. Fever
9. Night sweats

### B. TB PREVENTION

First responders are routinely in contact with individuals who are considered to be at high-risk of TB infection. Homeless shelters/encampments, persons who are/were recently released from prison, people with HIV and anyone with a compromised immune system could be infected with Active TB. While there is a vaccine against TB it is not commonly used in the U.S. Because the bacteria is released into the air, the use of an N-95 respirator mask is an effective way to protect against Tuberculosis. Always practice Universal Safety precautions.

### C. TB INFECTION & EXPOSURE

If you suspect that you have been in contact with someone who has tuberculosis you should contact your doctor to be tested. There are 2 types of tests for TB infection:

1. TB skin test: A TB skin test requires two visits. On the first visit a small amount of fluid (called tuberculin) is injected into the skin on the lower part of the arm. After 48 to 72 hours the patient will need to return to have the results evaluated. The result depends on the size of the raised,

hard area or reaction to the injection. If your test results come back positive your doctor may advise you to take medications to reduce your risk of developing active tuberculosis. A positive skin test indicates that a person has been infected the TB bacteria and further tests will be needed to determine if it latent or active TB. A negative skin test indicates that that the person's body did not react to the test and TB infection is not likely.

2. TB blood test: If your doctor chooses to do the TB Blood tests, they will draw your blood and send it off to a lab for analysis and results. Similar to the skin test, a positive blood test indicates that the person has been infected with the TB bacteria and additional tests will be needed to determine if the person is in the latent or active stage of the disease. Conversely, a negative test indicates that the person's blood did not react to the test and that latent TB infection or TB disease is not likely.

If you test positive for latent TB infection, your doctor may advise you to take medications to reduce your risk of developing active tuberculosis. If you have active TB, it generally takes a few weeks of treatment with TB medications before you're not contagious. During this timeframe it is recommended that you stay home and self-quarantine in a well-ventilated room. Cover your mouth and nose when interacting with those around you and finish your entire course of medication.

## XIII. CONCLUSION

(Slide 52) First responders frequently come into close contact with individuals, which always leads to a possibility of catching viruses or coming into contact with bodily fluids. It is vital to exercise extreme caution when dealing with an individual who may possess needles, has a persistent cough, or is spitting or otherwise ejecting bodily fluids.

Remember to get the necessary tests if you have reason to believe you have been in contact with someone with a viral infection, and make it a priority if accidentally stuck with a foreign needle.

## XIV. QUESTIONS?

## XV. RESOURCES


1. https://www.mayoclinic.org
2. https://www.cdc.gov
3. https://www.who.int

STUDENT NAME: _____ DATE: _____

1. Which of the following may cause infectious disease?

   A. Parasites
   B. Viruses
   C. Bacteria
   D. All of the above

2. How long should you scrub your hands during washing?

   A. 5 seconds
   B. 10 seconds
   C. 20 seconds
   D. 30 seconds

3. Infectious diseases can be transferred from insects and animals.

   A. True
   B. False

4. What is the main cause for a hightened risk of contracting an infectious disease?

   A. Blood type
   B. Weakened immune system
   C. Not being physically fit
   D. Poor diet

5. If you think you have been infected, the first thing you should do is:

   A. Contact your supervisor
   B. Visit a pharmacy for medicine
   C. Visit your doctor
   D. Get plenty of rest

**PRE-TEST KEY**

1. D 2. C 3. A 4. B 5. C

STUDENT NAME: _____ DATE: _____

1. _____ require a human host to grow.

   A. Bacteria
   B. Viruses
   C. Fungi
   D. Parasites
   E. B and D

2. COVID-19 is mostly spread through:

   A. Contaminated surfaces
   B. Bodily fluids
   C. Respiratory droplets
   D. Blood

3. If you believe you have been infected with a disease or virus, the first thing you should do is visit a pharmacy for medicine.

   A. True
   B. False

4. _____ is a virus that attacks the immune system.

   A. Tuberculosis
   B. COVID-19
   C. HIV/AIDS
   D. Hepatitis A

5. Which form of Hepatitis has many variants and currently no vaccine?

   A. Hepatitis A
   B. Hepatitis B
   C. Hepatitis C

6. The use of steroid medication, having a weak immune system and malnutrition are examples of _____.

   A. Risk Factors
   B. Lack of PPE
   C. HIV symptoms
   D. Health hazards

7. Which of the following is an example of indirect contact?

   A. Animal scratches and bites
   B. Contact with bodily fluids
   C. A pregnant woman passing a disease to her baby
   D. Contaminated food

8. Transmission can only occur from either direct or indirect contact with an infected source.

   A. True
   B. False

9. Cough, chest pain and fatigue are symptoms of:

   A. Tuberculosis
   B. COVID-19
   C. Hepatitis B
   D. A and B

10. What type of infectious disease is Athlete's Foot?

   A. Viral
   B. Bacterial
   C. Fungal
   D. Parasitic

11. You can get Hepatitis A from respiratory droplets caused by sneezing and coughing.

   A. True
   B. False

12. It is recommended that you scrub your hands for 15 seconds before rinsing.

   A. True
   B. False

13. Which of the following is NOT considered an animal-to-human transmission?

   A. Bitten by an animal
   B. Bitten by an insect
   C. Scratched by an animal
   D. Handling animal waste

14. What are the characteristics of the symptom known as jaundice?

   A. Fatigue / exhaustion
   B. Gastrointestinal complications
   C. Skin rash that typically itches or burns
   D. Yellowing of the skin and whites of the eyes

15. Tuberculosis commonly affects the lungs, but sometimes it may affect the _____.

   A. Brain and liver
   B. Spine and brain
   C. Spine and kidneys
   D. Liver and kidneys

16. Malaria is caused by parasites.

A. True
B. False

17. There is currently medicine for HIV / AIDS, but no cure or vaccine.

A. True
B. False

18. Which of the following is personal protective equipment (PPE)?

A. Medicine
B. Hand washing
C. Vitamin C
D. Face mask

19. When was COVID-19 first discovered?

A. July 2019
B. Last quarter of 2019
C. January 2020
D. March 2020

20. If a disease is “latent,” it means _____.

A. The disease is actively causing symptoms
B. The disease is currently contagious
C. The disease is dormant / inactive
D. There is no detectable disease

**TEST KEY**

1) E 2) C 3) B 4) B 5) C

6) A 7) D 8) A 9) D 10) C 11) B

12) B 13) B 14) D 15) C

16) A 17) A 18) D 19) B 20) C

**PASSING = 80% OR BETTER**

## XVIII. RUBRIC

| INFECTIONS DISEASES SCENARIO RUBRIC | | |
|---|---|---|
| | **Did Do** | **Did Not Do** |
| Create distance from the irate subject | 1 pt | 0 pts |
| Establish communication with the irate customer | 1 pt | 0 pts |
| Attempt to de-escalate | 1 pt | 0 pts |
| If force was used, explain why in accordance with department policy | 2 pts | 0 pts |
| Successful De-escalation | 3 pts | 0 pts |

| **Instructor Comments** |
|---|
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| |

At least 3 points total must be earned in order to pass.

**Any written test and rubric scoresheets shall be kept in department records for 30 years.**

## XIX. STUDENT ATTENDANCE ROSTER

**TOPIC:** INFECTIOUS DISEASES **DATE:** _____

| Last | First | Badge | Email | Officer's Initials |
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I certify that each person listed on this roster was present in class for the entire number of training hours reflected, and if not, their training hours have been adjusted and recorded accordingly.

**PRINT NAME:** _____ **SIGNATURE:** _____

## XX. CLASS SURVEY

**TOPIC:** INFECTIOUS DISEASES

**INSTRUCTOR:** _____ **DATE:** _____

| COMMENTS |
|---|
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| CLASS CONTENT | Excellent | Above Average | Good | Below Average | Poor |
|---|---|---|---|---|---|
| | | | | | |
| Class organization | | | | | |
| Class objectives were clearly stated | | | | | |
| Practical activities were relevant to objectives | | | | | |
| All materials/resources were provided | | | | | |
| Topic area was important to Law Enforcement | | | | | |
| | | | | | |
| **CLASS INSTRUCTION** | | | | | |
| | | | | | |
| Instructor was prepared | | | | | |
| Instructor was knowledgeable in the content area | | | | | |
| Manner of presentation of the material was clear | | | | | |
| Effective teaching strategies were used | | | | | |
| Instruction met class objectives | | | | | |
| | | | | | |
| **STUDENT PARTICIPATION** | | | | | |
| | | | | | |
| Level of effort your put into the course | | | | | |
| Your skill/knowledge of the topic at start of course | | | | | |
| Importance of the topic to your assignment | | | | | |
| | | | | | |

## XXI. CONTACT VIRTRA

If you have any questions/issues with any part of this manual, please see contact below:

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