



# **PUBLIC HEALTH SCREENING TOOL for INFECTIOUS DISEASES**

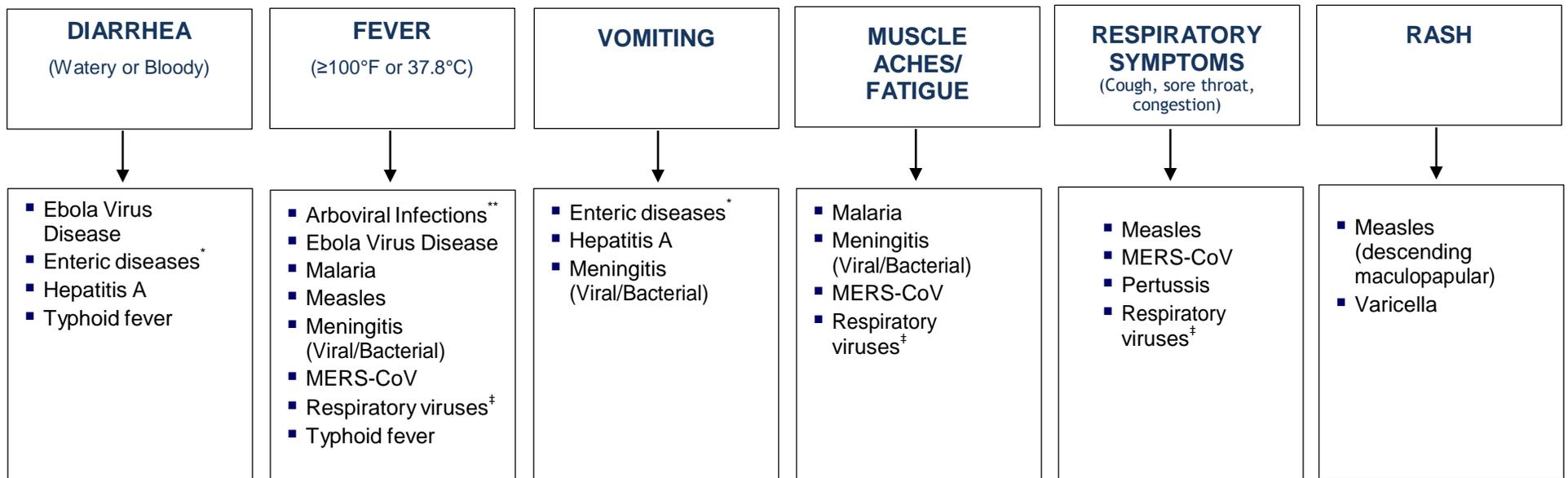
The medical community should be prepared for a variety of infectious diseases. This document aids healthcare providers in evaluating patients for potential infectious diseases of interest and provides them with appropriate steps to control transmission in healthcare settings. The conditions highlighted within this tool have been selected on the basis of present local disease trends along with conditions identified through a global health risk assessment. This first page provides a summary of common signs and symptoms and their associated diseases. Additional information on these infectious diseases of public health concern such as signs and symptoms, diagnostic tests, and treatment is provided on pages 2-4. Page 5 provides a single-page chart, Infectious Diseases of Concern: Papal Visit. All suspected and confirmed cases of communicable diseases should be reported immediately to the El Paso Department of Public Health (DPH) Division of Epidemiology (DOE) at 915 212-6520. A list of reportable conditions and a fillable reporting form are available at <http://www.ephealth.com/ReportDisease>.

## **Recommended Screening Procedures**

As part of a complete health history and physical examination, all patients should be asked for domestic and international travel history. If a vaccine-preventable disease is suspected, immunization history should also be ascertained particularly for the following conditions: measles, varicella, hepatitis A, typhoid, and tetanus. Suspected cases of infectious diseases detailed below and/or illnesses should be immediately reported to DPH.

## **Common Signs & Symptoms and Associated Disease**

Patients should be evaluated for the presence of the following signs and symptoms. Diseases of public health concern associated with these predominant signs and symptoms are listed below. Additional information on these diseases is provided on pages 2-5. Many of these symptoms may be caused by non-infectious etiologies; a full work-up is necessary.



\* Enteric diseases include: shiga-toxin producing *E. coli* infection, salmonellosis, shigellosis, campylobacteriosis, giardiasis, and foodborne toxins among others

\*\* Arboviral infections include: West Nile Virus, chikungunya, dengue, malaria, Yellow Fever, Japanese encephalitis and Zika

† Respiratory viruses primarily include: influenza, respiratory syncytial virus, rhinovirus, and MERS-CoV

**The following infectious diseases are currently circulating and of concern in El Paso and worldwide. All suspect and confirmed cases of these diseases must be reported to the El Paso Department of Health Division of Epidemiology immediately by calling 915 212-6520. For additional information on these and other disease conditions please visit: <http://www.ephealth.com>**

## **Arboviral Infections**

### **West Nile Virus, Chikungunya, Dengue, Yellow Fever, and Japanese Encephalitis**

**Incubation Period:** Symptoms for chikungunya will typically present within 3-7 days, but could present between 1-12 days. Symptoms for dengue present 3-14 days after the bite of an infected mosquito. The incubation periods for West Nile Virus, Yellow Fever and Japanese Encephalitis respectively are on average 2-6, 3-6, and 5-15 days.

**Signs and Symptoms:** Fever, joint pain, headache, muscle pain, and joint swelling are common signs and symptoms for all arboviral infections. Rash can accompany West Nile Virus and chikungunya infections. Thrombocytopenia, increased vascular permeability, mild hemorrhagic manifestations, and microscopic hematuria may also present in conjunction with dengue.

**Diagnostic Tests:** Infections are typically diagnosed by testing serum or plasma by culture, PCR, or serology.

**Treatment:** Treatment is supportive and can include rest, fluids, and use of non-steroidal anti-inflammatory drugs to relieve acute pain and fever.

### **Zika Virus**

**Incubation period:** Incubation period is not well known but can possibly be from 2 to 7 days after infected mosquito exposure.

**Signs and Symptoms:** The most common symptoms of Zika virus disease are: acute onset of fever with maculopapular rash, arthralgia, and conjunctivitis. Also myalgias and headaches are reported. Infants born to mothers infected with the virus in the first trimester have shown microcephaly and CNS calcifications.

**Diagnostic Tests:** Serum RT-PCR and Virus-specific IgM are typical tests used to diagnose Zika Virus Infection. Cord blood samples, newborn serum and CSF samples can be used for testing newborns.

**Treatment:** Treatment is supportive and can include rest, fluids, and use of non-steroidal anti-inflammatory drugs to relieve acute pain and fever.

**Additional Information:** No commercial test is available at this time. Testing is done only by CDC laboratory and has to be sent from the state laboratory. Please contact our local Zoonosis Control Specialist- Region 9/10 Office: 915-834-7780 for testing approval and sample submission. Additional information at [www.EPHealth.com](http://www.EPHealth.com)

## **Ebola Virus Disease (EVD)**

**Incubation Period:** Symptoms may present anywhere between 2-21 days after exposure, but the average is 8- 10 days.

**Signs and Symptoms:** Fever, headache, diarrhea, vomiting, muscle pain, weakness, fatigue, abdominal pain, unexplained hemorrhage.

**Diagnostic Tests:** EVD is confirmed through PCR or culture identification of Ebola virus or detection of IgM via ELISA. Virus is detectable only after symptom onset and typically within three days of onset.

**Treatment:** Treatment is supportive, including rehydration and rest.

**Additional information:** Patients with suspected EVD should be placed on standard, contact, and droplet precautions. Refer to DPH's guidance on screening patients for EVD available at: [www.ephealth.com](http://www.ephealth.com)

## **Enteric diseases (including salmonellosis, shigellosis, E.Coli infection, norovirus)**

Incubation Period: Symptoms will present within 6 hours to 10 days depending on the organism.

Signs and Symptoms: Most enteric diseases present with diarrhea (sometimes bloody), abdominal pain/cramping, headache, vomiting, and fever. Infection with shiga-toxin producing *E. Coli* may also result in decreased urination, an indication of potential hemolytic uremic syndrome.

Diagnostic Tests: Diarrheal illnesses are routinely identified by stool cultures and increasingly PCR assays as well. Often antibiotic resistance testing will be performed to help determine treatment.

Treatment: For most diarrheal illnesses treatment is supportive, including rehydration and rest.

Some antibiotics will help shorten disease carriage.

Additional information: Patients with enteric disease should be placed on contact precautions during illness. Clusters of illness should be reported to DPH with information on food history if available.

## **Hepatitis A**

Incubation Period: Hepatitis A's incubation period is 15-50 days, and on average about 28 days.

Signs and Symptoms: Acute viral hepatitis symptoms include jaundice, fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, clay or pale-colored stools, joint pain, and elevated liver enzymes.

Diagnostic Tests: IgM antibody to hepatitis A virus (IgM-HAV). Liver function tests may also provide evidence of recent infection.

Treatment: There is no specific treatment, but supportive treatment is recommended, such as rehydration, proper nutrition, and rest.

Additional information: DPH can assist with coordinating post-exposure prophylaxis for contacts of cases.

## **Malaria**

Incubation Period: The incubation period in most cases varies from 7 to 30 days although a person may feel ill as late as one year later.

Signs and Symptoms: Malaria presents as a flu-like illness with high fever including shaking chills, headache, muscle aches, and tiredness. Nausea, vomiting, and diarrhea may also occur, as well as jaundice and anemia.

Diagnostic Tests: Blood smears are used for the identification of malaria parasites.

Treatment: The species of malaria will determine the appropriate treatment regimen.

Additional information: Assistance with the management of patients with malaria is available through the CDC Malaria Hotline – 770-488-7788.

## **Measles**

Incubation Period: Symptoms will present within 7 to 21 days after exposure.

Signs and Symptoms: Fever, malaise, cough, coryza and conjunctivitis, Koplik spots, maculopopular rash.

Diagnostic Tests: Detection of measles-specific IgM antibody in serum and measles RNA by RT-PCR in blood, urine, or nasopharyngeal specimens are the most common methods for confirming measles infection.

Treatment: Care for measles is supportive.

Additional information: Patients with measles should be placed on airborne precautions during illness. Post-exposure prophylaxis is available for exposed healthcare workers and contacts. DPH should be notified immediately of any suspect measles cases in order to assist with laboratory testing and contact management.

## **Meningitis (Meningococcal Infection or Viral Infection)**

Incubation Period: Meningococcal infection has an incubation period of 2 -10 days. The incubation period for aseptic (viral) meningitis varies on the causative organism; for enterovirus the incubation period is 3-6 days.

Signs and Symptoms: Fever, stiff neck, headache, and photophobia. Additional symptoms may include transient paresis, encephalitic manifestations, and rash.

Diagnostic Tests: Gram stain of blood, CSF, or other sterile specimen can aid in the identification of *N. meningitidis*. Confirmatory tests include culture and PCR assays. PCR assays of CSF can assist with detection of viral pathogens as well.

Treatment: Broad spectrum antibiotics may be initiated at initial suspicion of meningococcal infection with a shift to penicillin, ampicillin, or chloramphenicol if confirmed. Treatment for aseptic meningitis is supportive.

Additional information: DPH should be notified immediately of any suspect meningococcal cases in order to assist serogrouping of the isolate and contact management. Individuals exposed to respiratory secretions of cases should receive chemoprophylaxis.

## **Pertussis**

Incubation Period: Symptoms usually appear within 5-10 days, but can appear up to 3 weeks after exposure.

Signs and Symptoms: Cold-like symptoms, fever, cough. After 1-2 weeks, paroxysms with high-pitched “whoop.”

Diagnostic Tests: RT-PCR and culture of nasopharyngeal specimens are the preferred diagnostic tests.

Treatment: Azithromycin, clarithromycin, and erythromycin.

Additional information: Patients with pertussis should be placed on droplet precautions during illness. Close contacts should be prescribed an appropriate course of antibiotic chemoprophylaxis.

## **Respiratory Virus Infections (Rhinovirus, Respiratory Syncytial Virus (RSV), Middle East Respiratory Syndrome coronavirus (MERS-CoV), Influenza)**

Incubation Period: Varies by viral infection; typical range is 12-72 hours for rhinovirus, 4-6 days for RSV, 1-4 days for influenza, and 2-14 days of MERS-CoV.

Signs and Symptoms: Sore throat, runny nose, coughing, sneezing, fever, watery eyes, headaches, body aches. Patients with MERS-CoV may also present with ARDS and/or pneumonia.

Diagnostic Tests: PCR-testing of nasopharyngeal specimens via a respiratory panel is the most sensitive and rapid means of detecting respiratory viruses. If MERS-CoV is suspected, serum and lower respiratory specimens should also be collected and referred to a public health reference laboratory for testing.

Treatment: Care is supportive, including rehydration and rest. Antivirals can be used for the treatment of influenza early in the course of illness.

Additional information: Patients with respiratory illnesses should be placed on droplet precautions during illness. Suspected MERS-CoV cases should also be placed under airborne isolation. For assistance with laboratory testing contact DPH, particularly for suspect MERS-CoV patients.

## **Tuberculosis**

Incubation Period: The incubation period from infection to development of a positive tuberculin skin test (TST) or interferon-gamma release assay (IGRA) result is 2 to 10 weeks. The risk of developing tuberculosis disease is highest during the 6 months after infection and remains high for 2 years; however, many years can elapse between initial tuberculosis infection and tuberculosis disease.

Signs and Symptoms: Clinical manifestations most often appear 1 to 6 months after infection and include a bad cough that lasts 3 weeks or longer, pain in the chest, coughing up blood and sputum, weakness or fatigue, fever, weight loss, no appetite, night sweats, and chills.

Diagnostic Tests: A positive TST or IGRA (blood tests) indicates latent TB infection (LTBI). Active TB disease is diagnosed by an abnormal chest x-ray and sputum smear positive for acid-fast bacilli (AFB). A culture of *M. tuberculosis* complex establishes the diagnosis.

Treatment: Isoniazid (INH) for LTBI therapy. For treatment of TB disease, first-line antibiotics are isoniazid (INH), rifampin (RIF), ethambutol (EMB), and pyrazinamide (PZA).

Additional information: DPH can assist with coordinating diagnostic tests, providing treatment guidance, and management of contacts. Contagious patients should be placed in an airborne infection isolation room.

## **Typhoid/Paratyphoid Fever**

Incubation Period: Symptoms typically present 8-14 days after ingestion of contaminated food or water but may appear as long as 60 days after exposure.

Signs and Symptoms: Sustained fever, headache, malaise, weight loss, constipation or diarrhea, bradycardia, splenomegaly, nonproductive cough, and rose spots on the trunk.

Diagnostic Tests: Stool, blood, or other sterile specimen culture.

Treatment: Antibiotics and corticosteroids in cases of severe enteric fever.

Additional information: Contact precautions should be used for patients with diarrhea.

## **Varicella**

Incubation Period: The incubation period is normally 14-16 days with a range of 10-21 days.

Signs and Symptoms: Generalized, itchy vesicular rash, fever, and malaise.

Diagnostic Tests: PCR testing of varicella lesions is the preferred test although serology may also be ordered.

Treatment: Acyclovir, valacyclovir, and famciclovir may be prescribed for individuals at risk for severe complications of varicella.

Additional information: Patients with suspect varicella should be placed under airborne precautions. Exposed contacts who are high-risk for severe varicella complications may receive VariZig.