



# Pandemic Preparedness: Key Clinical Points

## Overall:

- Recent travel to a foreign country, fever, and altered mental status may signal a life-threatening pathogen. Send the patient to hospital and determine what type of pathogen it is (and if you will need to inform public health officials).
- Knowing incubation periods and geographic endemicity is crucial for diagnosis –consider web-based reference tools for endemicity and syndromic presentations.
- A thorough physical exam, history of travel (and associated activities during time abroad), and blood tests are also crucial to diagnosis.
- RT-PCR has become a fast method for diagnosing RNA viruses, although next-gen sequencing is progressing rapidly. Working with local, state, and national laboratories for diagnostic testing is crucial for detecting uncommon pathogens.

## Diagnosis:

- Determine the type of testing needed by symptoms, and activities that took place during travel.
- Additional testing may be needed to ascertain various diseases (e.g., 3 thick films/rapid diagnostic tests for malaria).
- Save some serum for future serologic testing

Zoonosis	Clinical suspicion	Diagnostic testing
Haemorrhagic fevers (ie. Marburg, Ebola, Lassa)	Fever, altered mental status, petechiae Travel to endemic areas Contact with rodents, bats, primates, insect bites	Virus isolation (gold standard); RT-PCR (rapid diagnosis); ELISA (lacks specificity)
Arboviral diseases	Fever, rash, arthralgias/myalgias, neurologic symptoms Travel to endemic areas (tend to be tropical) Mosquito or tick bite in endemic areas	RT-PCR (rapid diagnosis); ELISA (lacks specificity)
Respiratory viruses (ie. Influenza, coronaviruses, Nipah virus)	Travel, sick contacts Contact with wildlife, agricultural animals Nosocomial outbreaks, outbreaks of unexplained respiratory illness	RT-PCR

## Management, Treatment & Public Health:

- For viral hemorrhagic fevers (VHFs), patient isolation in a negative pressure room and appropriate PPE are crucial.
- If a patient presents with an unknown pneumonia-syndrome, they should likely be placed in airborne isolation until a diagnosis is clear.
- Treatment depends on the type of pathogen (e.g., antibiotics for bacteria, etc.).
- Most importantly, for pathogens with pandemic potential, such as VHFs, alert local, state, and national public health offices.