

## 4 Key Points to Diagnosing, Investigating & Treating Tropical Infections

1. Take a detailed travel history to identify what they might have acquired
2. Send the correct specimens for the potential diagnoses
3. Remember "common things are common" don't forget UK acquired infections
4. Don't forget to treat life-threatening infections whilst waiting for "tropical" investigations results!

### Where has the patient been & what could they have picked up?!

Diagnosis	Travel Destination							
	Sub-Saharan Africa	North Africa, Middle East & Mediterranean	Eastern Europe & Scandinavia	South & Central Asia	South East Asia	North Australia	Latin America & Caribbean	North America
Malaria	✓			✓	✓		✓	
HIV	✓	✓	✓	✓	✓	✓	✓	✓
Rickettsiae	✓					✓		
Amoebic liver abscess	✓							
Brucellosis ( <i>Brucella</i> sp.)	✓	✓					✓	
Dengue	✓			✓	✓	✓	✓	
Enteric fever (Typhoid and Paratyphoid)	✓			✓	✓		✓	
Meningococcal disease	✓							
Viral Haemorrhagic Fever	✓							
Q Fever ( <i>Coxiella</i> sp.)		✓				✓		
Lyme Disease			✓					✓
Tick-borne encephalitis			✓					
Chikungunya				✓	✓			
Leptospirosis					✓		✓	
Melioidosis ( <i>Burkholderia pseudomallei</i> )					✓			
Rocky Mountain Spotted Fever								✓
West Nile fever								✓
Multiple-antibiotic resistant enterobacteriaceae e.g. Carbapenemase producing <i>E. coli</i> (NDM, KPC)				✓				✓

## Which Investigations and specimens are needed for possible diagnoses?

Diagnosis	Investigations
Malaria	<ul style="list-style-type: none"> <li>Antigen test and thick and thin films on 3 different whole blood (EDTA) samples, taken over a 72 hour period</li> </ul>
HIV	<ul style="list-style-type: none"> <li>Combined antigen and antibody test on serum (red or yellow vacutainer) but may not detect seroconversion illness</li> </ul>
Rickettsiae	<ul style="list-style-type: none"> <li>Antibody test on acute serum (red or yellow vacutainer) and 3-6 week serum looking for seroconversion</li> </ul>
Amoebic liver abscess	<ul style="list-style-type: none"> <li>Antibody test on serum (red or yellow vacutainer) <b>PLUS</b> abdominal ultrasound scan</li> </ul>
Brucellosis ( <i>Brucella</i> sp.)	<ul style="list-style-type: none"> <li>Blood cultures with extended incubation up to 2 weeks labelled as <b>HIGH RISK</b>, <b>PLUS</b> antibody test on acute serum (red or yellow vacutainer)</li> </ul>
Dengue	<ul style="list-style-type: none"> <li>Onset of symptoms &lt;4 days – PCR on whole blood (EDTA) sample</li> <li>Onset of symptoms &gt;4 days - antibody test for IgM on serum (red or yellow vacutainer)</li> </ul>
Enteric fever (Typhoid and Paratyphoid)	<ul style="list-style-type: none"> <li>Blood and stool cultures labelled as <b>HIGH RISK</b></li> </ul>
Meningococcal disease	<ul style="list-style-type: none"> <li>Blood cultures <b>PLUS</b> PCR on whole blood (EDTA) sample</li> </ul>
Viral Haemorrhagic Fever	<ul style="list-style-type: none"> <li>PCR on whole blood (EDTA) sample</li> <li><b>MUST</b> discuss with consultant microbiologist before sending</li> </ul>
Q Fever ( <i>Coxiella</i> sp.)	<ul style="list-style-type: none"> <li>Antibody test on serum (red or yellow vacutainer)</li> </ul>
Lyme Disease	<ul style="list-style-type: none"> <li>Antibody test on serum (red or yellow vacutainer)</li> </ul>
Tick-borne encephalitis	<ul style="list-style-type: none"> <li>Antibody test on serum (red or yellow vacutainer) <b>OR</b> PCR on CSF</li> </ul>
Chikungunya	<ul style="list-style-type: none"> <li>Antibody test on serum (red or yellow vacutainer) <b>OR</b> PCR on whole blood (EDTA) sample</li> </ul>
Leptospirosis	<ul style="list-style-type: none"> <li>Antibody test on serum (red or yellow vacutainer) <b>OR</b> PCR on whole blood (EDTA) sample or urine</li> </ul>
Melioidosis ( <i>Burkholderia pseudomallei</i> )	<ul style="list-style-type: none"> <li>Blood or urine culture labelled as <b>HIGH RISK</b></li> </ul>
Rocky Mountain Spotted Fever	<ul style="list-style-type: none"> <li>Antibody test on acute serum (red or yellow vacutainer) and 3-6 week serum looking for seroconversion</li> </ul>
West Nile fever	<ul style="list-style-type: none"> <li>Antibody test on serum (red or yellow vacutainer) <b>OR</b> PCR on whole blood (EDTA) sample or CSF</li> </ul>
Multiple-antibiotic resistant enterobacteriaceae e.g. Carbapenemase producing <i>E. coli</i> (NDM, KPC)	<ul style="list-style-type: none"> <li>Blood or urine culture</li> </ul>