

Guide to Differential diagnosis of generalised or systemic infectious disease conditions (Table 1)

NDOH Papua New Guinea Antibiotic Guidelines 2024



Disease	Risk factors	Clinical Characteristics (see note below)	WCC/ Other	Platelets	CRP [Note 3]	Confirmatory test(s)
Bacterial sepsis [Note 1]	Indwelling device, recent surgery or wound, re-presentation to ED, immune compromise, age > 65 years or < 3 months, fall, deterioration despite treatment	Fever/rigors, hypotension, low O2 saturation, tachycardia, raised resp. rate, hypothermia, altered level of consciousness, non-blanching rash Site specific: dysuria, cough, dyspnoea, abdominal pain / distension/ peritonism, recent delivery or miscarriage	Leucocytosis High venous or arterial lactate (> 4) and/or low base excess (< negative 5.0)	Variable	High (may take 8-12 hrs to rise)	Blood culture Culture of specific sites - urine, joint, CSF, peritoneal, pleural fluid
Typhoid fever	Endemic typhoid known in that area Patient resides in an urban settlement (slum)	Fever (high and persistent), abdominal cramps, constipation, anorexia +/- nausea and vomiting, head and body aches, weakness /fatigue, +/- confusion +/- enlarged liver and spleen, hypotension, tachycardia	Leucocytosis	Variable	High	Blood culture Stool culture Widal test NOT recommended (poor specificity)
Dengue	Known cases occurring in locality/ outbreaks	Fever, myalgia and arthralgia, rash, nausea and vomiting, bleeding manifestations (e.g., petechiae, easy bruising), hypotension, tachycardia	Leukopenia or normal	Low	Normal to Moderate elevation	RDT – NS1 antigen
Malaria	Known cases occurring in locality Traditional or substandard housing and no use of bed-nets	Fever (may exhibit cycles every 48,72 hours), headache, fatigue, nausea and vomiting, jaundice, anaemia, hypotension, tachycardia	Variable	Low	Normal to Moderate elevation	RDT- malaria Microscopy - thick film
Leptospirosis	River water exposure Other known local cases	Fever, headache, myalgia, conjunctival suffusion (redness without discharge), jaundice, abdominal pain, renal failure, hypotension, tachycardia	Leukocytosis	Low	Normal to Moderate elevation	No currently available testing [Note 4]
Spotted fever rickettsia	Tick bite	Fever, rash (may develop petechiae), +/- eschar (blackish scab at site of tick bite) at the site of the tick bite), arthralgia, headache	Leukocytosis	Low	Mild elevation	No currently available testing [Note 4]
Murine Typhus	Patient resides in an urban settlement (slum) (PNG epidemiology uncertain)	Fever, headache, rash (may develop petechiae), myalgia, nausea and vomiting, abdominal pain	Leukocytosis	Low	Mild elevation	No currently available testing [Note 4]
Scrub typhus	Rural setting (PNG epidemiology uncertain)	Fever, eschar (blackish scab at site of tick bite) at the site of the tick bite, headache, myalgia, rash (may develop petechiae), lymphadenopathy	Leukocytosis	Low	High	No currently available testing [Note 4]
Japanese Encephalitis (JE)	Coastal location Other known local cases/outbreak	Fever, headache, altered mental status, seizures, rash	Normal or mild elevation	Normal or mild reduction	Normal to mild elevation	send CSF sample to CPHL for testing by ELISA
Acute rheumatic Fever [Note 2]	Child 5-16 years (but can occur in adults)	Fever, joint pain and swelling, chest pain, shortness of breath, rash, heart murmur	Variable	Normal or mild reduction	Moderate to High	No currently available testing [Note 5]

Footnotes

Note 1: For further advice, see Australia Sepsis Kills Program pathways (adult, paediatric, perinatal and neonatal versions): www.cec.health.nsw.gov.au/keep-patients-safe/sepsis/sepsis-tools

Note 2: RHD Australia has an app for diagnostic guidance. <https://www.rhdaustralia.org.au/apps>

Note 3: CRP is the recommended assay for detecting an acute phase reaction to infection. It may also be elevated in a range of noninfective syndromes.

Note 4: Retrospective diagnosis may be possible – seek advice from PMGH Pathology.

Note 5: See acute rheumatic fever, page 341 in 'Miscellaneous infections' for further information.