# the**bmj** Visual summary

## **Fever identification charts** A quick guide to differentiation and diagnosis in tropical and subtropical regions

This document

is designed to be printed on three

sheets of ordinary A4 paper, which can be

mounted vertically

Acute undifferentiated febrile illnesses (AUFIs) are characterised by fever of less than two weeks duration without organ-specific symptoms at the onset. This document provides an approach to the diagnosis of common AUFIs in children older than five years as well as in adults in low resource settings, with a focus on early recognition of the most severe non-malarial illnesses.

## Local Disease Prevalence

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		Trichinosis			Trichinosis	Trichinosis				

Clinical features of common and important causes of	Legend	Non-severe disease	$\bigcirc$	0	0	
acute undifferentiated febrile illnesses		Severe disease	$\bigtriangleup$	Δ	Δ	
	Frequency of Occ Arbitrary cut-offs	currence	<b>Rare</b> <5%	<b>Uncommon</b> 6–10%	Occasional 10-30%	<b>Common</b> >30%

		Malaria	Enterio	c fever	Scrub	typhus	Leptos	pirosis	Deng	gue
	Rash	Rash suggests alternative diagnosis	$\bigcirc$	$\triangle$	0	Δ	0	Δ		
	Eschar									
ination	Jaundice	•		Δ		Δ				$\triangle$
Signs on examination	Conjunctival suffusion				0	Δ			0	Δ
Signs o	Lymphadenopathy	Lymphadenopathy suggests alternative diagnosis	$\bigcirc$	$\triangle$		Δ	0	Δ	0	Δ
	Muscle tenderness						0		0	Δ
	Enlarged spleen				0		$\bigcirc$	Δ	0	Δ
IS	Dyspnoea	Δ		Δ				Δ		$\triangle$
lication	Encephalopathy			Δ		Δ		Δ		Δ
comp	Acute renal failure		$\bigcirc$	$\triangle$		Δ				Δ
Systemic complications	Shock			Δ		Δ				Δ
Ś	Bleeding	$\bigtriangleup$		Δ		Δ		Δ	0	
ostics	White blood cell count	Normal High	Normal or low	High	Normal or low	High	Normal	High	Normal or low	Low
Diagnostics	Thrombocytopenia (< 150,000)			Δ						

### Excluders and predictors

in clinical findings and basic laboratory tests

Rule out features Presence of these features suggest alternative diagnosis	Rash and lymphadenopathy	Generalised rash or generalised lymphadenopathy			Fever >12 days, combination of normal tourniquet test and normal leucocyte count (LR- 0.12)
<b>Rule in features</b> Associated with an increase in probability of disease	Fever >40 degrees. Splenomegaly, thrombocytopenia and hyperbilirubinemia are associated with moderate to large increase in probability of disease	Fever in endemic areas >3 days duration & presence of abdominal tenderness is associated with moderate increase in probability of disease	Eschar virtually pathognomonic for scrub typhus (OR 46). Eschar seen in 17–86% of patients in recent series	Combination of suffusion, icterus and conjunctival hemorrhage is characteristic of leptospirosis.	Leukopenia and thrombcytopenia. Positive tourniquet test is a good predictor of infection (OR: 4.86) and ascites is a good predictor of severe dengue (OR:13.91)

#### Confirming a diagnosis

Accuracy and interpretation of specific tests

Serological tests based on antibody detection are confirmatory only on demonstration of fourfold rise in titre in IgG or seroconversion in IgM in paired specimens

<b>Rapid tests</b> Request malarial testing and routine blood tests in all patients	Malarial antigen test (ICT format) Sensitivity 95% Specificity 95% for <i>P. falciparum</i> Minutes	Antibody test Sensitivity 47-98% Specificity 58-100% 2-4 hours	Specific Immunoglobulin M test (ICT format)Sensitivity 66% Specificity 92%RapidELISA for specific Immunoglobulin M using recombinant antigensSensitivity variable Specificity 90-100%\$\$ Medium	Immunoglobulin M test Sensitivity 13-22% in 1st week ~60% in 2nd week ~80% afterward Specificity low C Hours	NS1 antigen test     Sensitivity 66%     Specificity 98%     Immunoglobulin M test     Sensitivity 83%     Specificity 86%
<b>Confirmatory tests</b> The results of blood culture or serological tests may confirm the diagnosis and guide further therapy	Microscopy Detects as few as 5-10 parasites per µl of blood \$ Inexpensive	Culture Sensitivity 40-87% Specificity 100% 3-6 days Widal test Sensitivity depends on local prevalence Specificity 100% (paired specimens) \$ Inexpensive	Immunofluorescent or Immunoperoxidase assay for antibodies Sensitivity variable (100% with paired specimens) \$\$\$ Expensive Weil-Felix Test Sensitivity variable Specificity high (paired specimens) Iow (single specimens) \$ Inexpensive	Microscopic agglutination test for antibody Sensitivity 41% in 1st week 82% in 2nd-4th week Specificity variable \$\$\$ Expensive Nucleic acid amplification Specificity >95%, even in 1st week \$\$\$ Expensive Culture Sensitivity low Specificity 100% Very slow \$\$\$ Expensive	Culture     Sensitivity ~40%     Specificity 100%     \$\$\$\$ Expensive     Nucleic acid amplification     Sensitivity 60-100%     Sensitivity 60-100%     Specificity >95%     \$\$\$\$ Expensive     Sensitivity 60-100%     \$\$\$\$ Medium
	Malaria	Enteric fever	Scrub typhus	Leptospirosis	Dengue

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