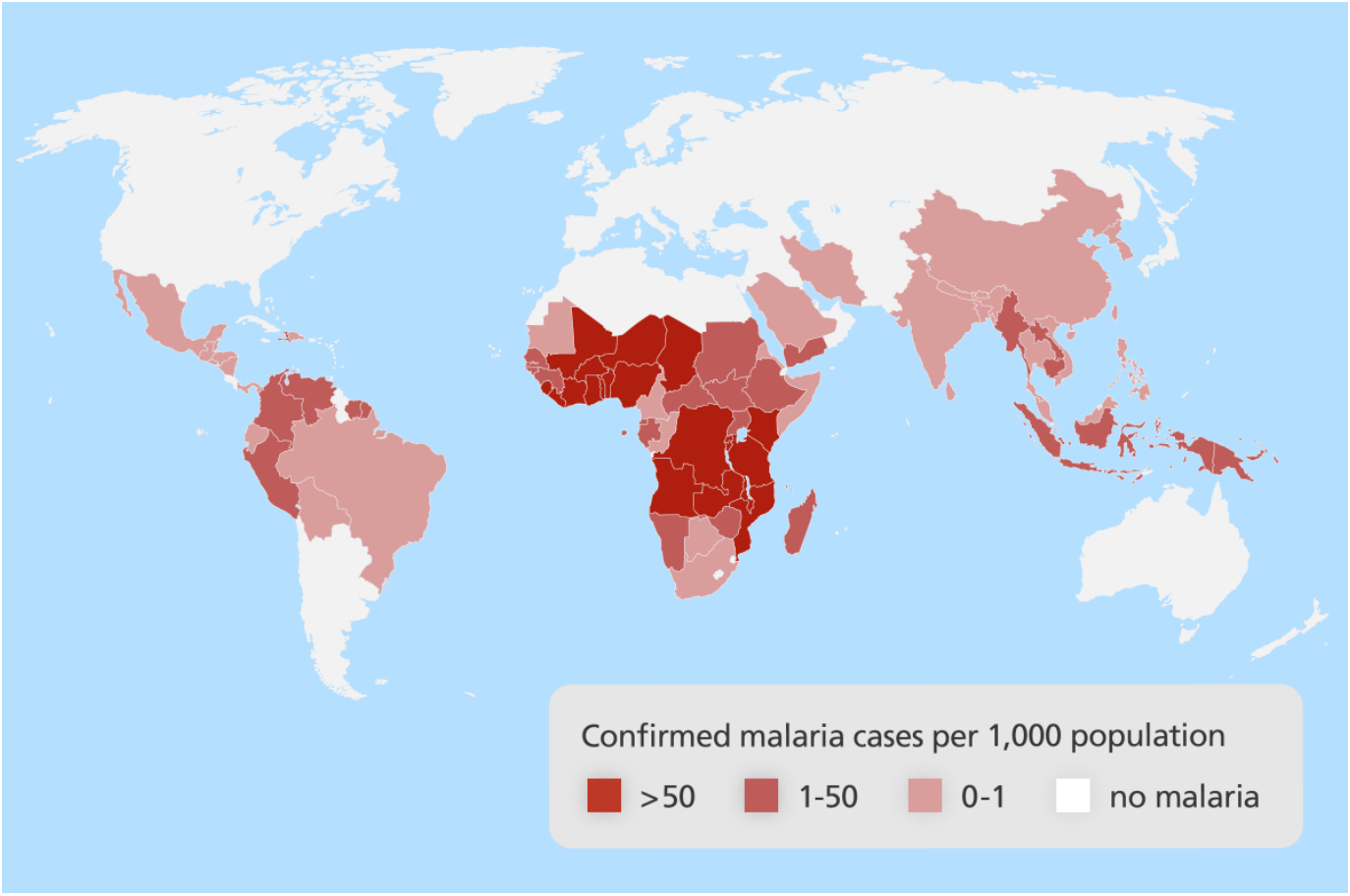
INFECTIOUS DISEASES

MALARIA

Malaria is a protozoan infection caused by:

Species	Incubation period	Fever Periodicity	Characteristics
Plasmodium falciparum	7-10 days	36-72h	Fulminant
Plasmodium malariae	18-40 days	72h	Nephrotic syndrome
Plasmodium vivax	10-17 days	48h	Relapses after years
Plasmodium ovale	10-17 days	48h	Relapses after years

Vector: transmitted to humans by female Anopheles mosquito.



Pathogenesis

Malarial parasites multiply in erythrocytes – the fever corresponds to periodic haemolysis and release from infected erythrocytes. P. vivax and ovale have dormant hypnozoites which remain in the liver and may lead to relapses after a period of months or years.

In severe malaria due to falciparum there is sequestration of infected erythrocytes in the microvasculature leading to end organ damage.

Clinical Features

Malaria	Severe Malaria (usually falciparum)
Periodic high fever & rigors	ARDS
Malaise, headache, myalgia, N&V	Shock
Hepatosplenomegaly	Metabolic acidosis
Blackwater fever (haemoglobinuria)	Disseminated intravascular coagulation
Nephrotic syndrome (P. malariae only)	Hypoglycaemia
Deranged LFTs	Haemolysis – jaundice & anaemia
	Cerebral malaria - altered GCS, seizure, focal
	AKI - haemoglobinuria/nephrotic syndrome

Diagnosis

Test in **any** patient with fever that has travelled to a malarious region within the last year.

- Take a purple EDTA bottle for thick and thin films and rapid antigen detection test.
- Thick film detects parasites; thin film determines species.
- Rapid antigen detection test: detects presence of malaria but cannot determine species.
- If initially negative repeat screening is indicated over next few days – films require skill to interpret and may be negative if partially effective prophylaxis has been taken.
- Parasite loads correlate with prognosis.

Management

- ABCDE with emphasis on fluid resuscitation in severe malaria.
- Bloods: including blood cultures, blood gas & malaria screen.
- Septic screen: urine dip, CXR, CT head/LP if focal neurology/encephalopathic.
- Consider IV antibiotics as bacterial infection is an important differential diagnosis.

Get expert help:

- HDU/ITU if unwell.
- ID on-call – if unwell the goal is to commence therapy prior to lab confirmation.

Specific therapy: (ensure drug given is different to that taken for prophylaxis)

- Artesunate.
- Quinine.
- Artemether & lumefantrine.
- Chloroquine.