

A young child with brown hair is lying in a bed with white linens. A healthcare professional, wearing a white lab coat and a blue sleeve, is checking the child's forehead with a hand. The child is looking up at the professional with a concerned expression. A white teddy bear is visible behind the child's head. The professional is also holding a digital thermometer in the child's mouth. The overall scene is a clinical setting, likely a hospital or clinic.

Catch the actual cause of fever!!!

FEVER MULTIPLEX

Rapid and simultaneous detection of more than 16 fever causing pathogens
Real-time, MultiplexX PCR I CE IVD approved assay

FEVER MULTIPLEXES

Pyrexia of Unknown Origin Multiplex

Bacteria

- Brucella spp. (Brucellosis)
- Rickettsia (Typhus fever)
- Leptospira spp.
- Salmonella spp. (Typhoid)
- Coxiella burnetii (Q fever)
- Burkholderia mallei/pseudomallei (Meliodiosis)

Virus

- Dengue hemorrhagic fever
- Chikungunya fever
- Japanese encephalitis virus
- Hantaan virus (Hemorrhagic fever)
- Leishmania spp. (Kala azar)
- Yellow fever

Acute Fever Multiplex

Virus

- Dengue
- Chikungunya
- West Nile

Parasite

- Plasmodium

Bacteria

- Rickettsia
- Leptospira
- Salmonella

Fever With Rash

- Dengue
- Chikungunya
- Herpes simplex virus 1 & 2
- Varicella zoster
- Enterovirus
- Human herpes virus 6 & 7
- Parvovirus 819
- Measles virus

Viral Screening Multiplex

- Adenovirus
- Cytomegalovirus
- Epstein-Barr Virus
- Herpes simplex
- Herpes simplex virus type 2
- Human herpes virus 6
- Human herpes virus 7
- Varicella zoster virus
- Parvovirus 819
- Enterovirus
- Parechovirus

The Clinical Problem

Pyrexia of Unknown Origin (PUO) remains a clinical challenge despite a greater understanding of the disease responsible and increased access to diagnostic tests. About 51% of cases remain undiagnosed, indicating that there is a need for a methodical, stepwise approach to investigation PUO.

FEVER



- Represents ~ 50% of consultations
- One of the most common reasons for admission to hospital
- Responsible for high mortality and loss of life expectancy

Conventional Algorithm vs Fever Multiplex Diagnosis

Early diagnosis is essential for quick outcomes and management strategies, along with surveillance, outbreak control and research to vaccine and drug development.

Conventional diagnostic approach

Symptomatic Diagnosis

- Empirical diagnosis
- Signs and symptoms consistent with high temperature gives a presumptive idea about the cause of fever

Culture

- Significant only in bacterial infections
- Takes 72 hours for final result
- Isolation of fastidious organisms has low sensitivity 25-30%
- Transportation of sample decides the viability of bacteria

Serology

- Takes at least 5-7 days for a positive result
- No relevance in active patient management.

May take 7 days



Multiplex PCR

- Detects bacteria, viruses and fungi
- Faster diagnosis, within 5 hours
- Helps in active patient treatment decisions
- High sensitivity and specificity

Key Features

- ✓ Only 1 ml blood required
- ✓ Direct testing from whole blood
- ✓ Time to perform the test: ~ 5 hours
- ✓ Initiation of antibiotic therapy prior to testing will not hamper the diagnosis

Advantages

- Gold standard technology for PCR
- High-level amplification: Higher Sensitivity
- Multiplex PCR: Higher specificity
- Real-time data helps target quantification

Sample Type



2ml
Peripheral
Blood in
EDTA

Sensitivity : 97.2%
Specificity : 100%