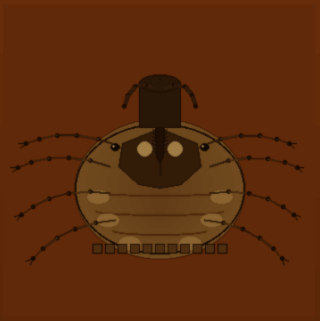


CCHF CLINICAL GUIDE

Evidence-Based Reference for Healthcare Workers in Pakistan

For Healthcare Workers

Bacha Khan Medical Complex (BKMC), Swabi KP
Department of Infectious Diseases
Khyber Pakhtunkhwa, Pakistan

Sources: WHO · CDC · ECDC · NIH Pakistan (Updated July 2025) | May 2026

CHAPTER 1

Disease Overview & Epidemiology

1

Vector: Hyalomma tick

Primary transmission route in Pakistan

Haemorrhagic Fever

CFR 10–40% no approved vaccine

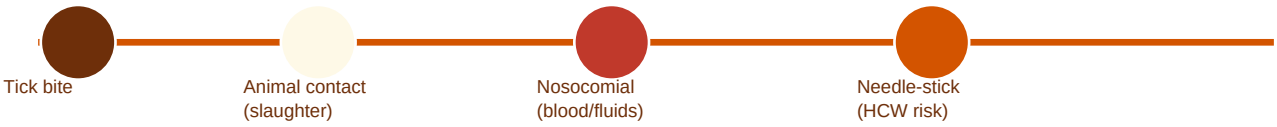
Nosocomial Risk

HCWs at high risk without proper PPE

CCHF in Pakistan — Key Facts (2025)

- CCHFV: Nairovirus, Bunyaviridae family. Enveloped, negative-sense RNA, tripartite genome
- Endemic in Pakistan since 1976. Annual cases reported; spikes around Eid ul-Adha
- Vector: Hyalomma ticks (H. marginatum, H. anatolicum). Livestock = amplifying hosts; show no illness
- Case Fatality Rate: 10–40% (hospitalised patients). Pakistan reports consistent annual mortality
- No WHO/FDA-licensed vaccine. No licensed specific antiviral. Ribavirin used off-label.
- High-risk HCW exposure well-documented: nosocomial outbreaks reported in Pakistani hospitals

TRANSMISSION SUMMARY

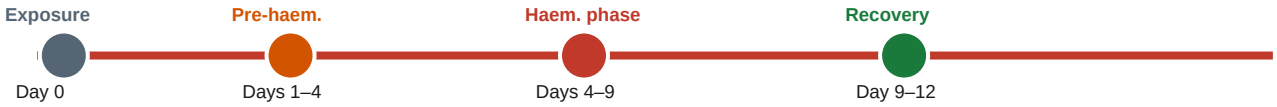


Transmission routes

CHAPTER 2

Clinical Presentation & Case Definitions

2



Disease timeline

Phase	Timing	Features	Priority
Incubation	Tick: 1–3d (max 9d) Blood: 5–6d (max 13d)	Asymptomatic	NOT infectious
Pre-haemorrhagic (Days 1–4)	Abrupt onset	Fever >38.5°C, severe headache, myalgia backache, photophobia, nausea/vomiting Flushing, conjunctival injection, relative bradycardia	ISOLATE
Haemorrhagic (Days 4–9)	Critical	Petechiae, ecchymosis, epistaxis, gingival bleeding, haematuria, melaena, haematemesis Thrombocytopenia, elevated LFTs, DIC, hepatomegaly	Full PPE; ICU
Recovery (Day 9–12)	If survived	Improvement; weakness, memory loss hearing deficits, alopecia may persist	Discharge planning

SUSPECT
Fever + haemorrhagic symptoms + ≥1 of: travel to endemic area ≤14 days, tick bite, animal blood contact, contact with CCHF case.

PROBABLE
Suspect + thrombocytopaenia (<100,000/µL) AND/OR elevated ALT/AST (>3×ULN), elevated CK, coagulopathy. Treat as confirmed. (NIH Pakistan July 2025)

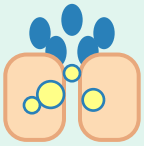
CONFIRMED
Suspect/probable + RT-PCR (+) for CCHFV, OR IgM/IgG ELISA (+), OR virus isolation OR antigen detection. Samples → NIH Pakistan NHL.

CHAPTER 3

IPC & PPE Guidance

3

Full Barrier PPE
Mandatory for all suspect/confirmed care



Hand Hygiene
Soap & water preferred All 5 WHO moments

Single Room Isolation
Dedicated CCHF area; negative pressure if available

PPE COMPONENTS

■ GLOVES

Double-glove: inner sterile surgical + outer heavy-duty nitrile. Change between patients.

■ GOWN

Full-body impermeable fluid-resistant gown or coverall. Tape seal at cuffs and ankles.

■ FACE PROTECTION

Full face shield preferred. Goggles + surgical mask minimum. N95/FFP3 + PAPR for AGPs.

■ FOOTWEAR

Waterproof rubber boots + boot covers. Head cover (surgical cap/hood).

■ APRON

Waterproof apron over gown for all bloody procedures, phlebotomy, IV insertion.

Donning & Doffing Sequence (WHO)

DONNING: Hand hygiene → Gown → Inner gloves → Head cover → Boots → Apron → Face shield → Outer gloves → Buddy verification

DOFFING: Outer gloves → Apron → Face shield → Boots → Gown → Head cover → Inner gloves → Hand hygiene. TRAINED OBSERVER mandatory for every step.

- AGP procedures (intubation, suctioning): N95/FFP3 + PAPR. Minimise all aerosol-generating procedures.
- Sharps: Safety-engineered devices. No recapping. Immediate disposal in puncture-resistant containers.

CHAPTER 4

Treatment & Laboratory

4

CLINICAL MANAGEMENT

■ Supportive care — cornerstone

IV fluid resuscitation and electrolyte replacement. Paracetamol for fever (AVOID NSAIDs and aspirin — increase bleeding risk). Blood components: platelets, FFP, packed RBCs for haemorrhage. Intensive monitoring: CBC, LFTs (ALT/AST), PT/aPTT, creatinine. Supplemental oxygen as needed.

■ Ribavirin — initiate early if probable/confirmed (NIH Pakistan July 2025)

Loading dose: 30 mg/kg orally. Then 16 mg/kg every 6 hours × 4 days. Then 8 mg/kg every 8 hours × 6 days. IV Ribavirin if oral not tolerated. Monitor CBC, LFTs, renal function. Teratogenic: contraception mandatory during treatment and for 6 months after. Enrol in RCT if available (WHO recommendation).

■ Laboratory monitoring

Daily: CBC, PT/aPTT, LFTs (ALT/AST), creatinine, electrolytes. Thrombocytopaenia (<100,000/µL) + elevated LFTs + coagulopathy = ominous triad. Platelet count <20,000 + active bleeding → transfuse. Handle all specimens with full PPE under BSL-2+ conditions.

LABORATORY — NIH PAKISTAN PROTOCOL

Notify NIH NHL Islamabad BEFORE any sampling: +92-51-9255112

- Acute phase: Whole blood in EDTA for RT-PCR (primary diagnostic method)
- Convalescent: Serum for IgM/IgG ELISA (secondary/confirmatory)
- Virus isolation: BSL-4 required. Antigen detection as supplementary.
- All specimens = Category A (UN2814). Triple packaging mandatory.
- Inactivated specimens (heat, formalin) may be processed at BSL-2.

CHAPTER 5

NIH Pakistan Recommendations

5

NIH PAKISTAN RECOMMENDATIONS — CCHF (Updated July 2025)

Pakistan

1 **Triage & isolation at all entry points**
Apply CCHF triage screening at ALL entry points, especially during peak season (April–September) and around Eid ul-Adha. Any febrile patient with livestock/tick/CCHF contact history within 14 days → isolate immediately in single room with private bathroom. Log all room entrants. (NIH Pakistan CCHF Guidelines, July 2025)

2 **Standard + Contact + Droplet precautions — minimum**
NIH Pakistan mandates combined standard, contact and droplet precautions for all suspect/confirmed CCHF cases. Full barrier PPE for all direct patient care. N95/AGP precautions for aerosol-generating procedures. Barrier-nursing to prevent nosocomial spread. (NIH Pakistan CCHF Guidelines July 2025)

3 **Ribavirin — HCW post-exposure protocol**
HIGH-RISK exposure (needle-stick, sharp injury, blood/body fluid splash to mucous membrane or non-intact skin): Start prophylactic Ribavirin IMMEDIATELY after first-aid. Notify infection control + NIH DSRU within 1 hour. LOW-RISK (contact with patient environment): Monitor temperature + CBC every 48h for 14 days. Any fever → start Ribavirin + notify NIH. (NIH Pakistan CCHF Guidelines July 2025)

4 **Mandatory reporting within 1 hour**
ALL suspect CCHF cases reported to NIH Pakistan DSRU: +92-51-9255110 within 1 hour of clinical suspicion. Complete NIH VHF Notification Form. Notify provincial health authority simultaneously. Contact tracing of all healthcare and household contacts within 24 hours. (NIH Pakistan IHR Focal Point)

5 **Waste & environmental decontamination**
All waste (PPE, sharps, linen): Category A infectious waste. Double red biohazard bags; autoclave/incinerate. Environmental decontamination: 0.5% sodium hypochlorite (freshly prepared daily). Soiled linen: autoclave before laundering. (NIH Pakistan IPC Guidelines 2020 & CCHF Guidelines July 2025)

6 **Eid ul-Adha seasonal preparedness**
Pre-Eid briefing of all ER/surgical/medical HCWs. Stockpile Ribavirin and PPE. Establish dedicated CCHF isolation room. Arrange 24h on-call ID/virology consultation. Coordinate with veterinary authorities for livestock tick control. (NIH Pakistan CCHF Guidelines July 2025)

EMERGENCY CONTACTS & REPORTING

NIH Pakistan DSRU (24/7 CCHF Hotline)	+92-51-9255110
NIH National Health Laboratory (specimens)	+92-51-9255112 | nih.org.pk
WHO EMRO Regional Office	+20-2-2276-5000 | emro.who.int
CDC Emergency Operations Center	+1-770-488-7100
ECDC Duty Officer	+46-8-5860-1200

Sources: NIH Pakistan CCHF Guidelines (Updated July 2025) · NIH Pakistan National IPC Guidelines 2020 · WHO CCHF Fact Sheet (2025) · WHO EMRO CCHF · CDC CCHF (2024) · ECDC CCHF Factsheet (2024) · Frank MG et al. CDC Emerging Infectious Diseases 2024;30(5). FOR CLINICAL ORIENTATION ONLY.

DISCLAIMER

Department of Infectious Diseases · BKMC Swabi

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