Newham University Hospital

Ebola Virus Disease

Barts Health NHS Trust

Ebola is a filoviridae endemic to parts of sub Saharan Africa . The natural hosts are thought to be fruit bats. Ebola causes occasional outbreaks of EVD in humans through the handling or consumption of infected wildlife followed by human-human transmission, with the worst recorded occurring this year. The case fatality rate is 60-90% and the disease is currently untreatable. Human transmission is through exposure (via broken skin or mucus membranes) to infected body fluids and the incubation period is 2-21 days. Patients are infective when symptomatic but indirect exposure occurs through environmental contamination. Symptoms start with temperature, muscle aches, weakness and sore throat, progressing to diarrhoea and vomiting and finally bruising and bleeding. Death occurs within 8 days of haemorrhagic symptoms starting. All patients with a fever 38°C (or **history of fever**) **within** the last 24 hours returning from an endemic area or area of outbreak must be screened for the possibility of Ebola.

Screening & Risk Assessment

Fever >38°C but **NO** travel to/from at risk country in the last 21 days, No contact with an infected individual/body fluids or clinical specimens

Low Risk EVD

Fever >38°C AND travel from an endemic country or a country with a current outbreak in the last **21 days. High risk features = D&V, bruising or bleeding**

Possible EVD

Fever >38°C AND has cared for/ come into contact with the body fluids of/handled biological specimens of someone with known or suspected Ebola in last **21 days**

Highly Possible EVD

Current Risk Countries for EVD

- Sierra Leone
- Guinea
- Liberia

Exit pathway

Manage as per clinical presentation

Isolation / PPE as indicated by condition

'Serum Save' samples if needed should include area of travel but should **not** state 'VHF screen' and do **not** need special handling

Immediately Isolate for assessment

- Escort patient to **Resus Room 2** via external route for assessment. If patient walking and not vomiting, staff wear standard PPE. If non-ambulant, or high risk features, use enhanced PPE and take patient on trolley
- Ensure room clear of unnecessary kit and extractor fan is turned ON – big red knob on back wall.
- Wear **standard PPE** for possible EVD unless **high risk features**
- Wear **enhanced PPE** for **highly possible EVD** or possible PPE with **high risk features**. **No PPE** for patient.
- Keep door closed. Do not move the patient until cleared to do so.

If bruising, bleeding, uncontrolled vomiting diarrhoea or confirmed EVD contact the High Level Isolation Unit at the Royal Free 0207 794 0500

Malaria Screen, VBG, FBC, U&E, LFT, CRP, clotting, blood cultures, MSU. Repeat malaria x3 if negative. If **highly possible** EVD do minimal tests until malaria result known. (Portable X Ray **only** if indicated).
VHF screen (request **serum save**, indication: VHF, virology & chem path). Take additional purple & yellow top bottles
Place in 1st bag in isolation room and in 2nd bag plus plastic box at the room exit. Deliver **by hand** to lab. Ring bell and give to reception staff. Out of Hours (19.30 to 0900)contact haematology MLSO– bleep **003/ 8732**. Process according to VHF/Ebola Suspected Samples guideline.
NB: a negative EVD test does not rule out Ebola– consider repeating if necessary.

Management

Low Risk EVD

-positive malaria screen with good response to treatment or
-negative malaria screen and subsequently afebrile for >24 hours/ likely alternative diagnosis
Treat for underlying condition.
No indication for investigation of EVD.
Investigate for other causes of fever including malaria
Review if atypical response to treatment

Possible EVD

-negative malaria screen without an alternative diagnosis
-positive malaria screen but still febrile at 72 hours
Standard PPE unless high risk features. Maintain isolation until diagnosis confirmed (can be managed in side room with en-suite on ward if no high risk features)
Investigate for EVD and other causes of fever.
Inform Virology or Micro Registrar

Highly Possible EVD

Enhanced PPE if high risk features.
Maintain isolation and do **not** move patient.
Investigate for EVD and other causes of fever.
Inform Virology or Micro Registrar
Contact **Imported Fever Service**

Confirmed EVD

Laboratory confirmed disease
Enhanced PPE, strict isolation and do not move the patient.
Contact **High Level isolation Unit** for transfer
If ICU care needed may need to manage locally
Incident Control Team will be set up to coordinate

Contact Details:
Microbiology Registrar
07887 856174/Switch
Virology Registrar
07715 038 333
Imported Fever Service
0844 778 890
High level Isolation Unit
0207 794 0500
Public Health England
0208 200 4400
07623 541 417

Links
WHO Map
UK risk assessment
WHO declaration
WHO Ebola website
VHF risk assessment PHE
VHF management and control– Department of health
Imported Fever Service
Laboratory Services

Standard PPE	Enhanced PPE	High risk features
• Hand hygiene	• Hand hygiene	Diarrhoea
• Gloves	• Double gloves (outer surgical)	Vomiting
• Plastic apron	• Fit tested FFP3 mask	Bruising
• Add surgical mask + visor for splash inducing procedures eg phlebotomy, suctioning	• Face mask	Bleeding
	• Body suit with hood + long sleeved plastic apron	

PPE

PPE Supplies for trolley

Scrubs
Non-sterile gloves & surgical gloves
Plastic aprons with sleeves
Surgical gown & hat
Body suit with hood
Surgical mask
Fit tested FFP3 masks
Face shield
Shoe covers / boots

Procedure for putting on and taking off PPE

-Select appropriate level of PPE: Standard or Enhanced
-Put on scrubs
-Put on in the anteroom or outside the isolation room
-Remove in the anteroom or inside the isolation room
-be careful not to contaminate the wider environment
-dispose of PPE in appropriate level of waste– Cat B for low/possible risk or Cat A for highly possible.

- If non-disposable kit used this must be decontaminated immediately after use.
- Staff need to be trained in use of PPE.

Isolation

Negative pressure isolation: ED Resus room 2. ICU room 1 and 8
Side Rooms: Observation, Plashet and Stratford, Rainbow / PCDU for children
Rooms must have commode or en-suite toilet and minimal level of equipment necessary for management of the patient.

Highly likely or confirmed EVD or high risk features

- Do not move patient from the assigned room unless needs ICU
- Minimise number of staff involved in care
- Keep list of staff having contact with patient

Possible EVD

- Consider moving patient to ward once cleared by Virology / Microbiology registrar
- Side room with en-suite toilet.

Low risk EVD

- Any appropriate bed. PUO may still need isolation / standard PPE depending on clinical condition

Waste and decontamination

Waste-use disposables as much as possible– linen, cutlery, bed pans.
Possible EBV– Category B infectious waste: Dispose of as clinical waste.
Highly Probable or confirmed EBV– Category A infectious waste: autoclave or incinerate.

Decontamination

Virus may live for 2+ weeks on contaminated surfaces, fabrics or equipment. Wear PPE for decontamination and cleaning and incinerate waste.

Spills & Waste

Mop with absorbent material then disinfect with 10 000ppm chlorine (Tristal). Wash areas with water and detergent.
Clinical waste from commode should be solidified then double bagged

Deep Clean

For all possible / highly possible cases unless clear alternative diagnosis established
If VHF positive patient discharged room must be decontaminated by fumigation

- Call **Helpdesk 8672** for cleaning / decontamination

Special Circumstances

Relatives	If high possibility or confirmed disease NO ACCESS. If possible EVD access only if essential eg children. Ralatives should wear same PPE as staff. They should not use the en-suite. PPE is not required to escort asymptomatic relatives.
Death	Seal body in leak proof **double** body bag with absorbent material between the bags. Disinfect with 10 000 ppm chlorine. Inform Coroner. Avoid PM if possible and minimal handling of body. NO VIEWING or HANDLING of the body. Personal possessions capable of being decontaminated may be returned to the family.
Children	Initial management in Resus. Step down to side room on Rainbow / PCDU once cleared by microbiology. If critically unwell keep in resus – may require CATS retrieval in dedicated ambulance.
Needle stick/splash injury	Wash area with copious water. Follow up as **high risk** contact. Urgent involvement of microbiology & occupational health
Contacts (No work or movement re-strictions on any asymptomatic contacts)	No contact with patient / body fluid or social contact only = no risk. Direct contact with patient or handling of specimens / body fluids but with correct PPE = **Low risk**. Self monitor for 21 days Unprotected exposure to body fluids, intimate contact with patient = **high risk.** Daily temperature monitoring and re-porting for 21 days to monitoring officer