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.

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### Screenig & Risk Assessment

**Low Risk EVD**
- 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.

**Possible 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.

**Highly 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.

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### 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.

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### Contact Details:
- Microbiology Registrar: 077887 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

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### 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

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### Standard PPE
- Hand hygiene
- Gloves
- Plastic apron
- Add surgical mask + visor for splash inducing procedures eg phlebotomy, suctioning

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### Enhanced PPE
- Hand hygiene
- Double gloves (outer surgical)
- Fit tested FFP3 mask
- Face mask
- Body suit with hood + long sleeved plastic apron

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### High risk features
- Diarrhoea
- Vomiting
- Bruising
- Bleeding

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### Confirmed EVD
- Laboratory confirmed disease
- Enhanced PPE, strict isolation and do not move 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.

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### EVD contact the High Level Isolation Unit at the Royal Free 0207 794 0500

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### Low Risk EVD
- 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 as minimal tests until malaria result known. (Portable X Ray needed should include area of endemic area or area of outbreak must be screened for the possibility of Ebola.

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### Current Risk Countries for EVD
- Sierra Leone
- Guinea
- Liberia

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### 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).

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

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### EB Senior Team

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### v4 23rd October 2014
### 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. Relatives 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 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 reporting for 21 days to monitoring officer