

Fears and Prejudice

Step 1

Rose has been working as porter in the building for the past twenty years. She knows the tired looking youngster who is walking in through the main door, weighed down by a heavy backpack. She has known him since he was a child, which is why she leaves her lodge to welcome him. She would like to embrace him as she always does but then instinctively she pulls back, withdrawing and awkwardly offering to shake his hand. Everybody in the building knows Paul is just back from Liberia where he worked at an NGO hospital in logistics. Due to his job, he had no direct contact with Ebola virus disease patients or their body fluids, . Nevertheless, the ghost of Ebola spreads fear and he knows, so he smiles and says he is going to have a rest. ‘We’ll catch up in a few days’ he adds.

Q1 – For people coming back to Europe from Ebola-affected countries

1. self-monitoring for 21 days is recommended
2. quarantine is mandatory for 21 days in Europe as in USA
3. quarantine is mandatory only for healthcare workers
4. quarantine is strongly recommended

Source: Dossier– Ebola virus disease.

2.2.2 Travellers

The same above listed EVD prevention measures have to be strictly adhered to, in addition to preexisting generic precautions for travellers listed below:

- ...
- It is important to self-monitor health both locally and for 21 days after return, seeking medical care immediately in case of symptoms. Up to November 2014, only some US States had imposed a mandatory quarantine on healthcare workers who had direct contact with Ebola patients in West Africa, while in Europe no such policy has been introduced.

2.2.3. Importing Ebola to Europe

Healthcare workers should undergo an individual exposure assessment as early as possible upon returning. Additional measures can be considered on the basis of the results of the exposure assessment.

Healthcare worker individual management based on exposure assessment²¹

Type of exposure	Proposed option(s) for measures
No direct contact with EVD patients or their bodily fluids (e.g. involved in training local HCW)	Passive monitoring
Appropriately protected contact with bodily fluids of EVD patients (e.g. laboratory worker), fomites (e.g. bed linen) or during clinical activities	Active monitoring
Unprotected, inappropriately protected contact or known breach of protection while caring for an EVD patient, handling bodily fluids of a patient or fomites	Active monitoring Restriction of engagement in clinical activities No travel abroad
Mucosa or parenteral direct contact with bodily fluids of a patient (e.g. pricking a finger with a needle used for a patient or getting bodily fluid projection in the eyes).	Active monitoring Restriction of engagement in clinical activities Restriction of social interactions Restriction of movement

Step 2

Although no quarantine is required, Paul prefers to take a few days' rest. He lives alone and time off will also enable him to catch up with a lot of jobs which he wants to get out of the way before getting back to his routine. Friends have been in touch and have called him to hear about his experience but they don't seem in a hurry to organise a meal together.

Instead of feeling restored after his trip, after a few days Paul starts feeling ill, he has a searing headache, diarrhoea and a fever of 39°C.

"This is more than just stress he thinks and wonders about Ebola. Deep down he hopes he has been influenced by what he saw and heard, but as the NGO he works for recommended he contacts the appropriate hospital.

Q2 – According to the ECDC classification the current situation has to be defined as a

1. "person under investigation" since he meets clinical and high-risk exposure criteria
2. "probable case" since he meets clinical and high-risk exposure criteria
3. "probable case" since he meets clinical and epidemiological criteria
4. "person under investigation" since he meets clinical and epidemiological criteria

Source: Dossier– Ebola virus disease.

2.1. Diagnosis

According to the ECDC classification, the definition of EVD cases relies on clinical, epidemiological, laboratory and high-risk exposure criteria, allowing the identification of:

- A **person under investigation** is a person meeting the clinical and the epidemiological criteria or with high-risk exposure and any of the listed symptoms, including fever of any grade;
- A **probable case** is a person meeting the clinical and high-risk exposure criteria;
- A **confirmed case** is a person meeting the laboratory criteria.
- The definition of **possible case** is not applicable.

(...)

Clinical criteria:

- any person currently presenting or having presented before death fever $\geq 38.6^{\circ}\text{C}$

and any of the following:

- severe headache
- vomiting, diarrhoea, abdominal pain
- unexplained haemorrhagic manifestations in various forms
- multi-organ failure

or

- a person who died suddenly and inexplicably

Laboratory criteria, any of the following:

- detection of Ebola virus nucleic acid in a clinical specimen and confirmation by sequencing or a second assay on different genomic targets

- isolation of Ebola virus from a clinical specimen

Epidemiological criteria, in the 21 days before the onset of symptoms:

- having been in an area with community transmission

or

- having had contact with a probable or confirmed EVD case

High-risk exposure criteria, any of the following:

- close face-to-face contact (e.g. within one metre) without appropriate personal protective equipment (including eye protection) with a probable or confirmed case who was coughing, vomiting, bleeding, or who had diarrhoea; or had unprotected sexual contact with a case up to three months after recovery;
- direct contact with any material soiled by bodily fluids from a probable or confirmed case;
- percutaneous injury (e.g. with needle) or mucosal exposure to bodily fluids, tissues or laboratory specimens of a probable or confirmed case;
- participation in funeral rites with direct exposure to human remains in or from an affected area without appropriate personal protective equipment;
- direct contact with bats, rodents, primates, living or dead, in or from affected areas, or bushmeat.

Step 3

When Paul tells the hospital where he comes from and what symptoms he has, the health worker answering the phone is concerned and immediately applies the emergency procedure. Paul is transferred by ambulance by staff wearing the appropriate clothing and protection. In hospital he is wheeled to a protected room following an appropriate route. In his specially isolated room he meets a doctor who proceeds with a risk assessment. The doctor asks Paul to explain exactly what his duties in Monrovia: ‘Were you in direct contact with Ebola patients, possibly at admission?’ ‘Absolutely not, replies Paul, I was basically an office worker and interfaced with local authorities to see the hospital received regular supplies. I had contacts with the medical staff’. ‘Were there any cases of Ebola infection among the health staff?’ ‘Yes a Spanish nurse that I did not personally know contracted the disease. It happened just as I arrived and the person was immediately flown back to their country. I did get to know a queried Ebola case who turned out to be negative, at least this is what I heard from others because I had lost touch. There were about twenty volunteers who were due back so we organised a football match followed by dinner at a local restaurant.. but no meat was served. Just to lighten the atmosphere a little and take back jollier memories’. ‘Anything else?’ Nothing else to report. I am just concerned I used public transport and was wondering whether I could have caught it from someone like that.’

Q3– Which of the following answer is adequate?

1. a casual contact with a feverish person sitting in a public area or public transport is considered at low risk, while the infection cannot be ruled out if abraded skin or mucosa comes in contact with contaminated surfaces
2. staying in the same public area or public transport with a feverish person is considered at very high risk
3. contaminated surfaces cannot transmit the disease
4. Ebola virus is airborne, so transmission is easier than for flu

Source: Dossier– Ebola virus disease.

2.1. Transmission

Ebola viruses are highly transmissible by direct contact with infected blood, secretions, tissues, organs and other bodily fluids from dead or living infected persons. The principal mode of transmission in human outbreaks is person-to-person transmission through direct contact with a symptomatic or dead EVD case.

(...)

The disease could be transmitted by infected droplets (for example when the patient coughs or sneezes near another person) but no evidence of airborne transmission was found in EVD outbreaks so far.

(...)

Casual contact with a feverish but ambulant and self-caring patient, e.g. sharing a sitting area or public transportation is considered at low risk. Infection cannot be ruled out if mucosa or skin abrasions of people come in contact with Ebola virus contaminated surfaces and items, or directly or indirectly through contaminated hands.

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Step 4

The doctor answers: ‘In this case we consider it a very low risk’. ‘Maybe I should have worn a surgical face mask, at least on buses ...’ and adds ‘although at the hospital we had been told we didn’t need to’. ‘They were right as there is no good reason to wear it as protection from contagion. Airborne transmission of Ebola has not been proven: clearly I am not referring to contact with sick people where it is another matter and a surgical mask is part of the mandatory protective equipment’. Paul breathes a sigh of relief but then bends over because of a stab pain in his stomach. ‘The fact is I am not feeling well’.

‘The chances that you are suffering from Ebola are very low, but they cannot be altogether ruled out at the present moment in time. We have to wait for the lab results. Which reminds me, did you follow all the recommended precautions during your stay? You know the general advice which we have been giving for years to anyone travelling to West Africa or spending some time there or in other parts of the world. You did follow antimalarial prevention aka prophylaxis, didn’t you? I mean both medicines and measures to prevent mosquitos’ bites: nets, repellents creams, and so on...’

Q4 – Which generic precautions is the doctor referring to?

1. undergoing seasonal flu vaccination before leaving
2. practicing careful hygiene, washing and peeling fruit and vegetables before consumption, practicing ‘safe sex’, avoiding habitats populated by bats
3. avoiding going out at night, during the curfew
4. avoiding to get in touch with local people and eating local food

Source: Dossier– Ebola virus disease.

2.2.2. Travellers

Pre-existing generic precautions for travellers:

- practice careful hygiene
- washing and peeling fruit and vegetables before consumption
- practice ‘safe sex’
- avoid habitats which might be populated by bats, such as caves, isolated shelters, or mining sites.

Step 5

The doctor shows Paul the booklet they hand out routinely in the hospital to all those who are leaving or returning from journeys, and opens it on the page which lists general precautions to be followed when travelling to West Africa.

Q5 – Why is the doctor investigating about Paul’s safe behaviour?

1. he wants to exclude the simultaneous presence of EVD and other tropical diseases
2. he is following the protocol for EVD ascertainment
3. he wants to investigate the possibility of some other tropical disease, more common than EVD but with similar early symptoms
4. he wants to assess the reliability of his patient

Source: Dossier– Ebola virus disease.

1.3. Clinical information

At the beginning, EVD symptoms – high fever and strong headache – are very similar to those caused by malaria, a very common disease in the same areas where the virus has emerged.

In its early stage, EVD may also be confused with other African endemic diseases such as typhoid fever, dysentery, influenza. Due to this overlap, effective early diagnosis is thus more complicated and alert was generated when travellers from Africa to Europe showed similar symptoms. In this case, cautiousness would be the best approach and Ebola should be also considered and excluded, while bearing in mind that other infectious diseases, such as malaria, are much more likely than EVD. Moreover, a co-infection, in particular EVD and malaria, may occur, as several cases have been reported from affected countries.

...

2.1 Diagnosis

The early detection of potential EVD cases corresponding to the criteria of patient under investigation⁸ is crucial. In parallel, additional investigations of common causes of febrile illness upon return from tropical areas should be performed with priority to malaria diagnosis. However, malaria positivity does not exclude an EVD infection. It is expected that a significant number of people will be investigated for EVD in the EU/EEA but that the likelihood of identifying a confirmed EVD case will be very low (low positive predictive value). This is because most people who meet the criteria for patient under investigation for EVD will have other infections explaining their symptoms.

‘As far as malaria is concerned, I have followed the prophylaxis. But... Well at times I was not overly careful with fruit and vegetables, and possibly also with the water I drank. For sure nobody abided by precautions the day of the match... not with the heat.’

The doctor thinks it over: ‘Didn’t you say there was someone else with you on day of the match, someone who wasn’t feeling well...’ ‘Does that mean you suspect that...?’

‘A mere suspicion to be checked out... dysentery, typhoid fever: those are always lurking... and malaria itself, at the moment I cannot exclude the suspicion

