RAPID SCIENTIFIC ADVICE

Risk of Bundibugyo virus transmission through substances of human origin in the European Union/European Economic Area (EU/EEA)

11 June 2026

Key findings and recommendations

- The outbreak of Ebola disease caused by Bundibugyo virus (*Orthoebolavirus bundibugyoense*) is currently affecting the Democratic Republic of the Congo (DRC) and Uganda

Risk assessment

- The overall risk of Bundibugyo virus transmission through substances of human origin (SoHO) in the European Union/European Economic Area (EU/EEA) is currently assessed as very low.

Recommendations

- ECDC recommends temporary deferral of asymptomatic individuals donating SoHO for at least six weeks after arriving from areas with Bundibugyo virus community transmission.
- In the context of the current Ebola disease outbreak, individuals who are being monitored due to contact with a patient with an infection, or other exposure to Bundibugyo virus are ineligible to donate SoHO for at least six weeks from the beginning of the monitoring period
- ECDC recommends a permanent deferral from donation of blood, cells and tissues for donors who have recovered from Ebola disease.
- ECDC recommends that individuals who have had sexual contact with persons who have recovered from Ebola disease should be deferred from donating SoHO for at least six weeks after exposure, irrespective of the time elapsed since the recovery of the convalescent sexual contact.

Background

The outbreak of Ebola disease caused by Bundibugyo virus (BDBV, *Orthoebolavirus bundibugyoense*), currently affecting the Democratic Republic of the Congo (DRC) and Uganda, draws attention to the potential risk of BDBV transmission via donated blood and blood components, cells, tissues and organs – i.e. substances of human origin (SoHO).

Ebola disease is caused by viruses in the *Orthoebolavirus* genus. Three orthoebolaviruses are known to cause large outbreaks: BDBV, Ebola virus (EBOV, previously known as Zaire ebolavirus), and Sudan virus (SUDV). The typical incubation period for Ebola disease ranges from two to 21 days (mean: six days) [1]. The prodromal phase lasts for up to 10 days, during which the infected individual experiences a sudden onset of flu-like illness. This is followed by progressive weakness, anorexia, diarrhoea, nausea, and vomiting. The next stage of the disease is characterised by gastrointestinal, neurological, vascular, cutaneous and respiratory symptoms. Haemorrhagic manifestations may also occur. During the final stage, patients may die from a combination of multi-organ failure and hypovolemic shock due to severe fluid loss. More information about the disease and the epidemiological situation is available here: Ebola disease.

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Transmission of orthoebolaviruses through donated blood, tissues, cells or organs has not yet been described. However, the presence of the orthoebolaviruses in the blood and in multiple types of cells, tissues and organs [2,3] of people who are asymptomatic [4,5], symptomatic or have recovered [6-9] indicates that transmission of BDBV via transfusion or transplantation is possible. In the context of the current Ebola outbreak, this warrants an assessment of the risks to SoHO safety.

In terms of the safety of SoHO, there are no specific EU regulations on orthoebolaviruses. ECDC previously published a technical report on the risk of transmission of EBOV through donated blood and other SoHO in the EU/EEA, which included guidance on SoHO safety measures [10]. This document provides an updated assessment for SoHO, focusing on the current BDBV outbreak, reflecting the information available at the date of publication.

Risk assessment

The risk of BDBV transmission through SoHO is supported by the biological possibility of transmission due to the presence of BDBV in blood, tissues, cells and organs if the donor is infected. The presence and concentration of orthoebolavirus in organs, tissues, blood and other bodily fluids change during the course of the infection [11]. Virus concentration peaks when symptoms are most severe. Evidence from previous outbreaks shows that EBOV can be detected and isolated from bodily fluids such as breast milk, aqueous humour, cerebrospinal fluid and urine weeks after recovery [11] and may persist in semen for months or even more than a year [7-9,12-14]. Limited data are available on when patients become viraemic and infectious during the incubation period. The assumption is that the rate of virus replication and excretion in bodily fluids is not high enough in the pre-symptomatic phase to result in person-to-person transmission through contacts in the community. However, no data are available on when viraemia starts during the incubation period. Reports of asymptomatic EBOV infection [4,5], together with BDBV studies in non-human primates in which high viremia was detected before the onset of clinical signs [15], suggest that viral replication can precede symptoms and mild or asymptomatic orthoebolavirus infection may occur, although the infectiousness of such individuals remains unclear. During the symptomatic phase of Ebola disease, the virus is present in high concentrations in all bodily fluids, tissues and organs [3,11]. If the disease is fatal, the remains of a deceased individual continue to be highly infectious. After recovery from the acute phase, a patient may continue to excrete infectious virus in bodily fluids for long periods [6,12].

It is important to note that there are currently no approved SoHO donor screening tests for BDBV in the EU/EEA. Although pathogen inactivation techniques have been described as effective for the inactivation of enveloped viruses, the available data on orthoebolaviruses are limited, with most studies involving EBOV. EBOV is reported to be inactivated by heat (56ºC – 60ºC for 60 minutes) and solvent-detergent treatments [16,17], as well as after incubation at a pH of 2.5 [17]. In vitro studies of EBOV-infected human whole blood samples showed that UV light + riboflavin reduced viral titres below the limit of detection for the assays used, although viral concentrations at the start of the experiment were low due to the effect of complement and other immune factors [18]. A study assessing the effect of ultraviolet C light and methylene blue + visible light in spiked platelet concentrates and plasma, respectively, reported a reduction factor of over 4.5 log, resulting in a level below the detection limit for the assays [19].

Even though transmission of BDBV through SoHO is biologically possible if a donor were infected, the likelihood of BDBV affecting the EU/EEA SoHO donor population in the context of the ongoing outbreak is currently assessed as very low. It is expected that imported cases to the EU/EEA would occur very rarely, if at all [20]. The likelihood of secondary transmission of BDBV and the occurrence of sustained chains of transmission within the EU/EEA is considered very low, as cases would be identified and isolated promptly, and recommended control measures would be implemented [20].

Although infection with BDBV can cause severe disease in recipients in case of a transmission from an infected donor, the impact is assessed as very low, since the number of affected recipients in the EU/EEA is expected to be very small. Therefore, the overall risk of BDBV transmission through SoHO in the EU/EEA is currently assessed as very low.

Recommendations for the safety of SoHO donations

Individuals arriving from Ebola disease-affected areas

A deferral from SoHO donation for two incubation periods provides a reasonable margin of safety for asymptomatic prospective donors arriving from areas affected by Ebola disease caused by BDBV. The longest incubation period for Ebola disease is estimated to be 21 days. ECDC recommends temporarily deferring an asymptomatic individual who has not been deferred for other infectious disease risks from donating SoHO for at least six weeks after arriving from areas with community transmission of BDBV (see updated information at Ebola disease outbreak in the Democratic Republic of the Congo and Uganda).

The multiple pathogen inactivation steps used in the manufacturing process for plasma-derived medicinal products are considered effective for the inactivation of enveloped viruses [21-23], but have not been specifically validated for orthoebolaviruses. Bearing this in mind, and also to minimise potential exposure of SoHO professionals, a similar six-week deferral from donating plasma for industrial manufacturing would be a prudent precaution for asymptomatic travellers or residents arriving from areas with community BDBV transmission.

For organ donors, each donation from a deceased or living donor returning from an affected area should be evaluated individually, by assessing the urgency of recipient need and the donor's potential risk of exposure, obtaining the recipient's informed consent, carrying out specific post-transplant monitoring and considering the risk for healthcare workers and the recipient's family members. Based on this assessment, a shorter deferral period could be considered. (For information on risk of exposure to BDBV in the context of the current outbreak, see Threat assessment brief: Ebola disease outbreak caused by Bundibugyo virus – Democratic Republic of the Congo and Uganda – 2026).

Individuals monitored after exposure to Bundibugyo virus

In the context of the current Ebola disease outbreak, individuals who are being monitored due to contact with a patient with an infection, or other exposure to BDBV are ineligible to donate SoHO for at least six weeks from the beginning of the monitoring period.

Individuals with current Bundibugyo virus infection

During acute infection, orthoebolaviruses are present in blood and other bodily fluids, tissues, cells and organs. Individuals with evidence of current BDBV infection are not suitable as donors of SoHO, and both living and deceased donors should be excluded from donation.

Individuals having recovered from Ebola disease

Convalescence following Ebola disease is long and often associated with sequelae such as myelitis, recurrent hepatitis, psychosis or uveitis. Data on the post-recovery viraemic period are limited. Shedding of orthoebolaviruses has been reported in semen, breast milk, and ocular (eye) and cerebrospinal fluid after the virus has been cleared from blood [7,11,12].

Based on these findings and on the theoretical possibility of intermittent low-level viremia after recovery from illness, ECDC recommends permanent deferral from the donation of blood, cells and tissues for donors who have recovered from Ebola disease.

For organ donors, each donation from a deceased or living donor having recovered from Ebola disease should be evaluated individually, by assessing the urgency of recipient need and obtaining the recipient's informed consent, carrying out specific post-transplant monitoring and considering the risk for healthcare workers and the recipient's family member specifically monitoring the recipient post-transplant and considering the risk for healthcare workers and the recipient's family. Due to the persistence of orthoebolaviruses in some tissues and bodily fluids, a deferral period of 1.5 years could be considered for organ donors having recovered from Ebola disease [24].

Individuals having had sexual contact with a person convalescing after Ebola disease

Viable viruses have been isolated from semen, and sexual transmission of EBOV has been documented [12,25,26]. Hence, transmission of BDBV through sexual contact is considered possible. ECDC therefore recommends deferring individuals who have had sexual contact with a person who has recovered from Ebola disease from SoHO donation for at least six weeks since the exposure, irrespective of the time elapsed since the recovery of the convalescent sexual contact.

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