

Ebola Virus Disease (EVD) is a serious and frequently deadly illness caused by viruses of the Ebola genus. EVD is classified as a viral haemorrhagic fever. Four species are known to infect humans, the most common being the Zaire species, followed by the Sudan and Bundibugyo Ebola viruses.

Virus outbreaks are usually limited to the African continent, primarily in tropical sub-Saharan regions, with symptom onset typically occurring 2–21 days after exposure ^[1,2].

Common symptoms include:

- Sudden onset of fever
- Fatigue and muscle pains
- Headache and sore throat

Additional possible symptoms:

- Vomiting and diarrhoea
- Skin rash
- Internal and external bleeding (e.g. nose or gum bleeds)

It is **important to note** that individuals are not infectious until they develop symptoms ^[1] and that different Ebola virus species vary in severity and treatment options. Only the Zaire ebolavirus currently has approved vaccines and specific antibody treatments ^[5,6].

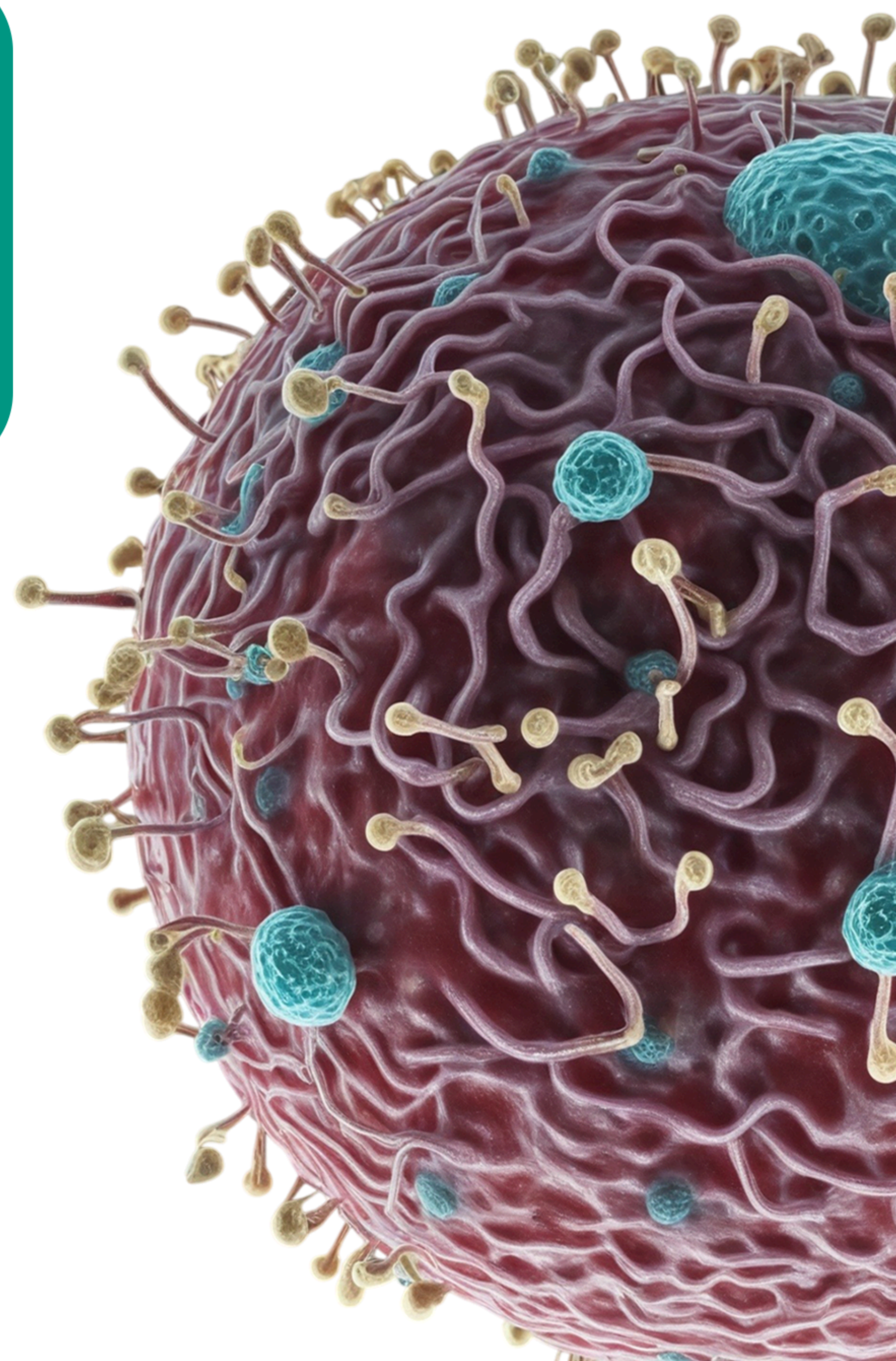
Transmission

The virus is introduced into humans through close contact with the blood or bodily fluids of infected animals such as bats and non-human primates (e.g. chimpanzees, gorillas and monkeys). Human to human transmission then occurs through direct contact with blood or body fluids, including saliva, urine, faeces, vomit and semen, entering the body through mucous membranes (e.g. the mouth) or broken skin. Contact with contaminated materials such as needles, syringes, clothing or bedding soiled with infected fluids can also spread the virus ^[1].

Transmission is most likely to occur:

- when caring for infected individuals without appropriate protection
- in healthcare settings with inadequate infection control
- during funeral and burial practices involving direct contact with the body ^[1]

Ebola is not known to be airborne and does not usually spread before symptoms develop ^[1,2]. Because transmission requires close contact with an unwell individual, outbreaks are often regional and can usually be contained when cases are rapidly identified, isolated and their contacts traced, with safe burial practices implemented ^[1,3]. The virus can persist in certain body fluids, particularly semen, meaning that transmission through sexual contact from male survivors can occur even after recovery. In settings where diagnosis, isolation and infection prevention are delayed, such as in households, healthcare facilities or areas with high population movement, local transmission can increase rapidly ^[1].





Outbreak patterns over time

Since 2020, several Ebola outbreaks have been detected in countries including the Democratic Republic of Congo, Guinea and Uganda. Most recent outbreaks have remained relatively limited in size compared with the major West African epidemic of 2014–2016, although recurrent outbreaks continue to occur intermittently in affected regions ^[3,4].

Survival and case fatality rates

Historically, Ebola case fatality rates (CFRs) ranged from 25–90%, depending on virus species, outbreak setting and quality of care ^[1]. Survival has improved with earlier detection, supportive care and, for Zaire Ebola, monoclonal antibody treatment ^[7,8]. However, CFRs can still reach around 70% during severe outbreaks with delayed detection and ongoing transmission ^[4].

Prevention

In general, prevention includes:

- Avoiding contact with blood or body fluids of infected individuals
- Using appropriate PPE and safe injection practices
- Rapid isolation of suspected cases
- Tracing and monitoring contacts for 21 days
- Safe and dignified burial practices
- Avoiding unsafe contact with bats, non-human primates and bushmeat
- Practising safer sex after recovery until advised safe by healthcare professionals ^[1]

For Zaire Ebola, vaccination is now an important prevention tool. Licensed vaccines include a single-dose vaccine (Ervebo), which provides very high protection, with studies showing up to 97% effectiveness in preventing disease. As protection develops within about 10 days, it is used in outbreak settings to vaccinate contacts of infected individuals and help limit further spread ^[5,6]. A two-dose regimen (Zabdeno/Mvabea) is also available and provides strong protection but is mainly used for preventive vaccination rather than rapid outbreak control ^[5].

There is currently no licensed vaccine for Bundibugyo Ebola, and Sudan Ebola vaccines remain an area of active research and emergency trial preparedness ^[5].

Treatment

Ebola remains a life-threatening medical emergency requiring rapid isolation, strict infection prevention and control measures, laboratory confirmation and intensive supportive care, particularly aggressive fluid and electrolyte replacement, which improve survival ^[1,8]. Treatment has changed substantially for Zaire Ebola, the most common species and the cause of the West African epidemic. Two monoclonal antibody treatments, Inmazeb and Ebanga, are now available for this form of the disease and have been shown to significantly improve survival compared with previous treatments, particularly when given early in infection ^[7,8].

These treatments are not approved for Sudan or Bundibugyo Ebola, so those outbreaks still depend mainly on early supportive care, strict infection prevention and control measures, contact tracing, safe burials and research/experimental protocols where appropriate ^[1,8].

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