

# EBOLA VIRUS DISEASE

FORMERLY KNOWN AS EBOLA  
HAEMORRHAGIC FEVER

# DEFINITION

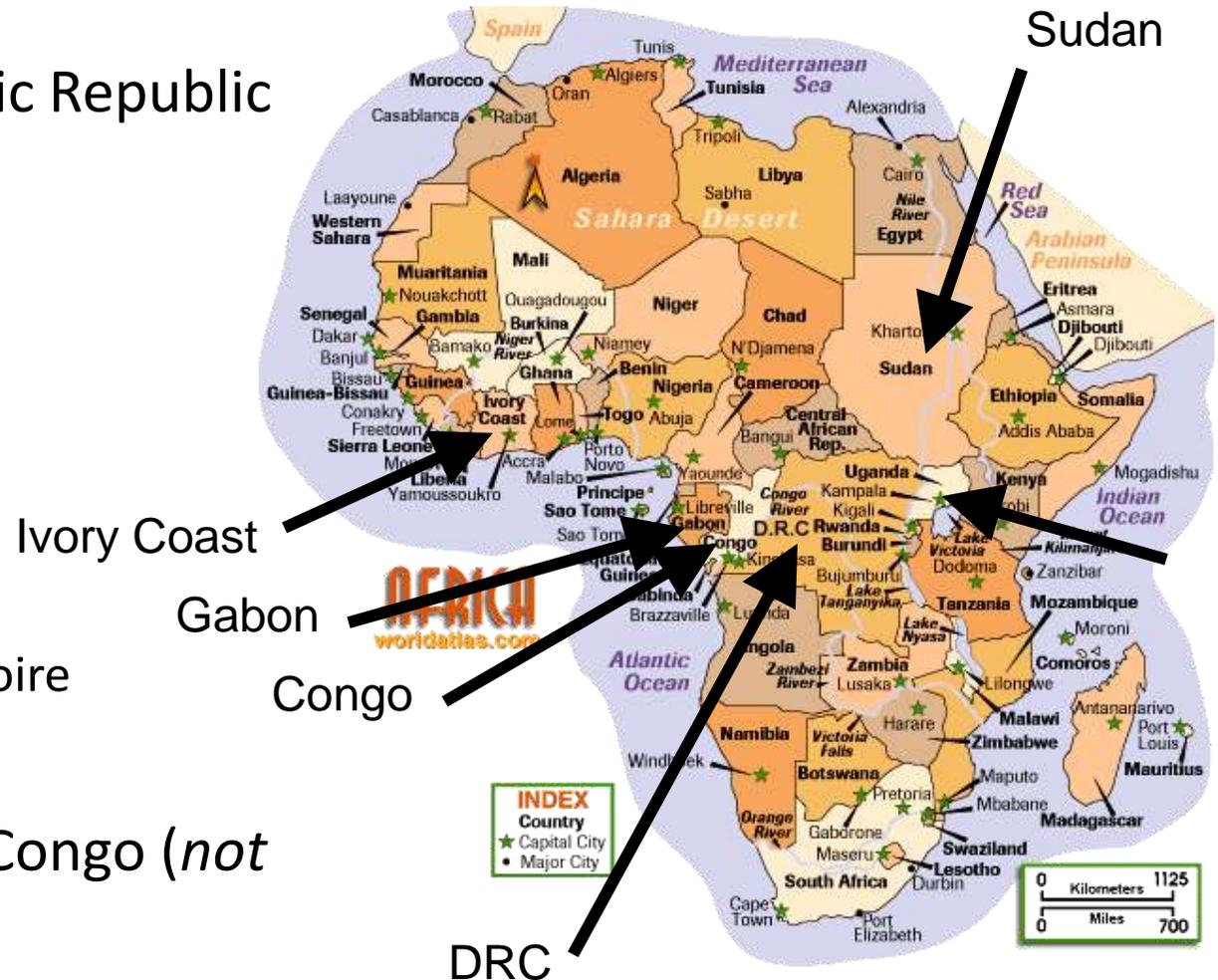
- Ebola virus disease is an illness caused by the ebola virus belonging to the group of filoviridae, an RNA virus.

# History

- It started in 1976 in the DRC(Democratic Republic of Congo) and Sudan(Nzara). A head master of a remote village went into the forest in August 22- 26 and died on the 8th of September after he had returned. In that year 318 people were infected and there were 280 deaths.

# Natural Habitat = Africa

- Zaire (Democratic Republic of the Congo)
  - Ebola-Zaire
- Sudan
  - Ebola-Sudan
- Gabon
- Ivory Coast
  - Ebola-Cote d'Ivoire
- Uganda
- Republic of the Congo (*not* the DRC)



# Current Statistics

- 1995 – 2013

	Cases/Death
Sudan	254/151
DRC	315/254
Uganda	425/224
- 2014 Outbreak

Started in Guinea in 2013 but was not detected until March, 2014.

# Current Statistics

• 2014 Outbreak	Cases/Deaths
Guinea	519/380
Liberia	786/413
Nigeria	12/5
Sierra Leone	810/348

A total of 2127 suspected cases and 1,146 deaths have been recorded so far.

# Virus Species

- Bundibugyo ebola virus
- Zaire ebola virus (ebov)
- Reston ebola virus (restv)
- Sudan ebola virus (sudv)
- Tai forest ebola virus( tafv)

# Natural Reservoir

Suspected to be a zoonotic  
(animal-borne)

However, it is unknown  
what organism carries it  
naturally without being  
infected



# Natural Reservoir (Contd)

## Suspected vectors

- Bats
- Primates (in some cases, have been confirmed)
- Basically any other animal native to Africa, including mosquitoes, ticks, birds, reptiles

# Transmission

- Into the community through:  
Close contact with the blood secretions, organs or other bodily fluids of infected animals such as chimpanzees, gorillas, fruit bats, monkeys, and porcupines whether dead or alive.

# Transmission (Contd)

- Human to human: Direct contact through broken skin or mucuous membrane with blood or secretions, organs or bodily fluids.
- Indirect contact through environments contaminated with such fluids.
- Corpses.
- Men who have recovered from this disease have been known to harbour the virus in their semen for up to 7 weeks.

# Ebola hemorrhagic fever

## Target Organs and Damage Methods

Target mainly small capillary vessels. Attach to walls, cause leakage of blood and serum into surrounding tissue.

When white blood cells attack the virus, they dissolve – this releases a chemical into the blood stream that signals the release of other chemicals (pro-inflammatory cytokines, pro-coagulants, and anticoagulants)

These injure blood vessels even worse, resulting in permanent bleeding.

Eventually, the entire body is leaking and dissolving

# Signs and Symptoms

- Fever
- Headache
- Sore Throat
- Muscle Pain
- Intense weakness
- Vomiting
- Stooling
- Rashes
- Impaired kidney/liver functions

# Differential Diagnosis

- Malaria
- Typhoid fever
- Shigellosis
- Cholera
- Leptospirosis
- Plague
- Relapsing fever
- Meningitis
- Hepatitis
- Viral Hemorrhagic fever

# Incubation Period and Diagnosis

- Incubation period is usually 2- 21 days.
- Diagnosis is usually made by isolation of the virus with :
  - 1. ELISA
  - 2. Antigen detection test
  - 3. Serum neutralisation test
  - 4. Electron Microscopy

# Prevention

- Reducing contact with wild animals ,  
cook meat properly.
- Avoid physical contact with infected  
persons
- Wash hands properly with soap and  
water. Use sanitizers.

# Prevention (Contd)

- Improve hygiene, keep environment clean. Mop floors regularly using bleach.
- Use protective clothing to care for infected persons.
- Stop lying in state and other burial practices.

The virus is easily killed by soap , bleach , sunlight and drying.

**Thank you  
for listening.**