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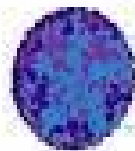
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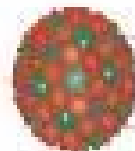
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Arboviral Infection

Arthropod-borne viruses (Arboviruses)



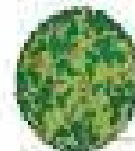
Dengue



Chikungunya



Yellow Fever



Zika

Arboviral Infection

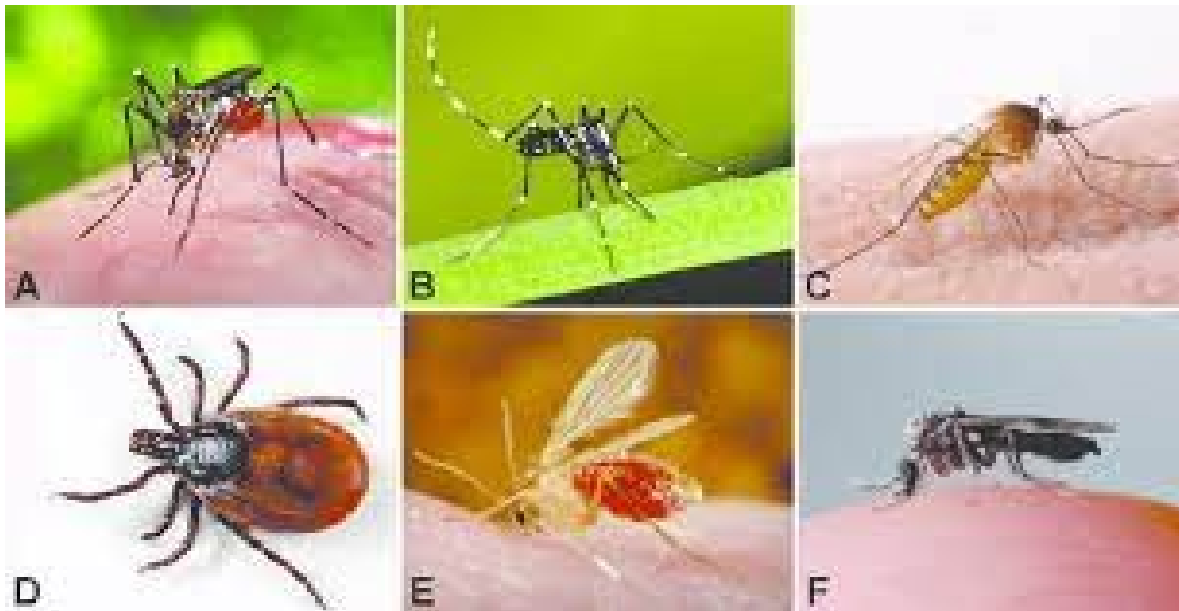
■ Definition :

Arboviral disease is a general term used to describe **infections caused by a group of viruses spread to people by the bite of infected arthropods (insects) such as mosquitoes and ticks.**

- The name 'Arbovirus' is **an acronym for arthropod-borne virus.**
- It is a group of **RNA** viruses.
- It is **10 to 40nm** in size

Arboviral Infection

- It is 10 to 40nm in size
- These infections usually occur during warm weather months, when mosquitoes and ticks are active.

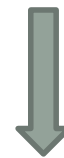


Arboviral Infection

- **Pathogenesis:** Among animal viruses, arboviruses are unique in that they are transmitted by **blood-sucking arthropods (vectors) to vertebrates**, a mode of transmission commonly known as biological transmission.

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- Bite of an Insect  Viraemia  Multiplication



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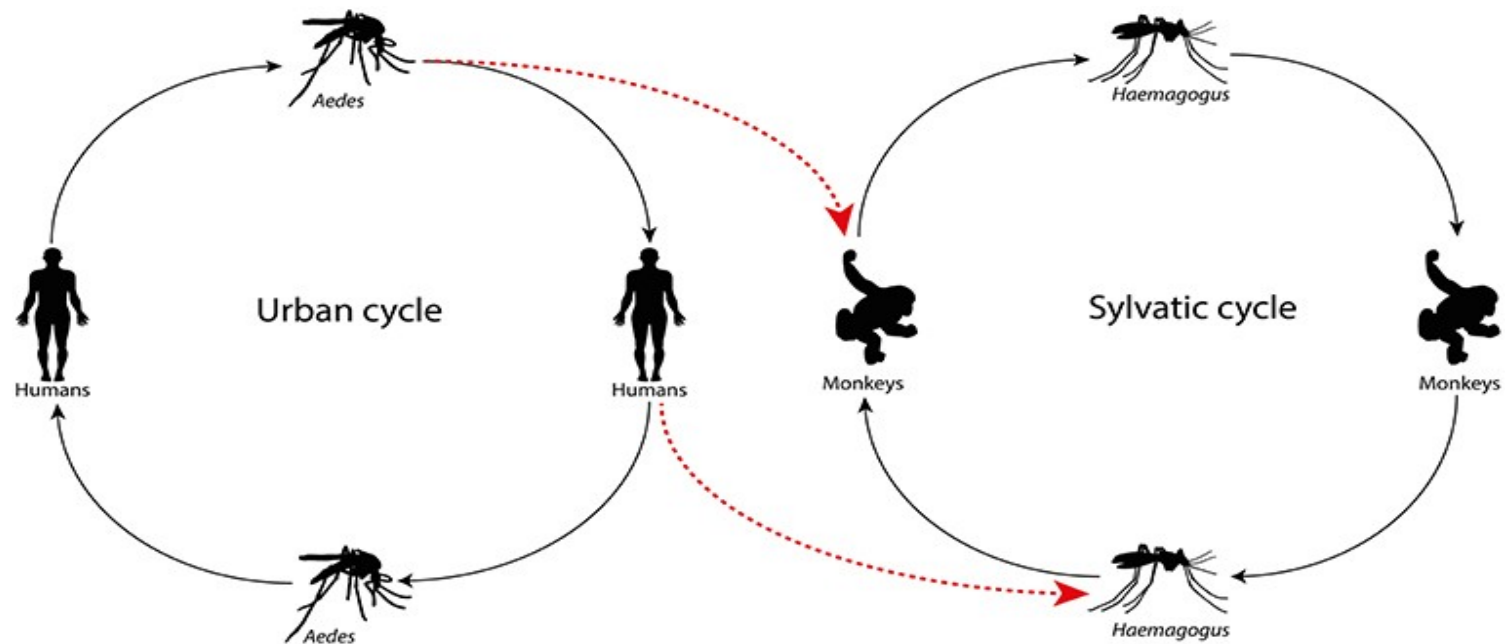
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Target Organ
(CNS, Liver, Spleen)

■ Arboviral Infection

Monkey □ Arthropod □ Human (Sylvatic Cycle)

Human □ Arthropod □ Human (Urban Cycle)



Arboviral Infection

- Clinical Features :
 - Headache.
 - High Fever
 - Muscle aches.
 - Joint Pain/Stiffness
 - Upset stomach.
 - Nausea, vomiting, or diarrhea.
 - Rash
 - Disorientation
 - Coma.

Arboviral Infection

- Prevention of Arbovirus

- Protective clothing, insect repellent, and wise choices of outings are all helpful.
- Installing door and window screens and avoiding standing water can also help reduce the risk.
- Vaccines are available to prevent some Arbovirus infections, such as Yellow fever and Japanese encephalitis.

Dengue



Arboviral Infection (Introduction)

- **Dengue** : is a viral infection that spreads from mosquitoes to people.
- **Caused: Aedes Egypti**
 - **2nd Name** (Break-bone fever)
 - **Location**: It is more common in tropical and subtropical climates.

Arboviral Infection (Dengue)

DENGUE : PREVENTION & CONTROL



Protect family from mosquito bites



Wear protective clothing like long sleeved shirt and pant



Use mosquito net while sleeping



keep your surroundings clean both indoor & outdoor



Avoid stagnant water in surroundings



Use mosquito repellents like coils, sprays

Dengue

Risk factors for Severe Dengue

- **Co-circulation of multiple serotypes** in the same geographic region
- **Host factors**
 - Age (infant)¹
 - Nutritional status
 - Obese individuals at higher risk¹
 - Chronic disease (diabetes, asthma)²
 - Previous dengue infection¹
- **Level of neutralizing antibody**
 - Timing of infection key as protective immunity wanes²

¹ Scott Halstead (2008). *Dengue. Tropical Medicine: Science and Practice*. London: Imperial College Press.

²Figueiredo MAA, et al. (2010) Allergies and Diabetes as Risk Factors for DHF. *PLoS Negl Trop Dis* 4(6): e699.

Dengue Types



Aedes aegypti



Aedes albopictus



Aedes polynesiensis



Aedes niveus

Dengue Types

- Dengue is caused by a virus of the Flaviviridae family
 - there are four distinct,
 - closely related, serotypes of the virus that cause dengue.
 - **DENV-1,**
 - **DENV-2,**
 - **DENV-3**
 - **DENV-4**

Dengue (Type)

Types of Dengue Fever & Symptoms

Mild Dengue Fever

1. Aching muscles and joints.
2. Body rashes that can disappear and then reappear.
3. High fever.
4. Intense headache.
5. Pain behind the eyes.
6. Vomiting and feeling nauseous.

Hemorrhagic Dengue Fever

1. Bleeding from mouth/gums.
2. Nosebleeds.
3. Clammy skin.
4. Damaged lymph and blood vessels.
5. Internal bleeding, leading to black vomit and feces (stools).
6. Lower number of platelets in
7. Sensitive stomach.
8. Small blood spots under your skin.
9. Weak pulse.

Buy Dengue remedy online at  **homeomart**

Symptoms of Dengue fever

Febrile phase

sudden-onset fever

headache

mouth and nose
bleeding

muscle and
joint pains

vomiting

rash

diarrhea

Critical phase

hypotension

pleural effusion

ascites

gastrointestinal
bleeding

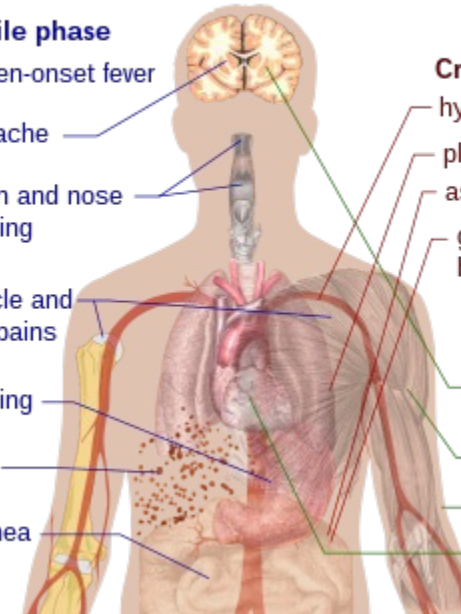
Recovery phase

altered level of
consciousness

seizures

itching

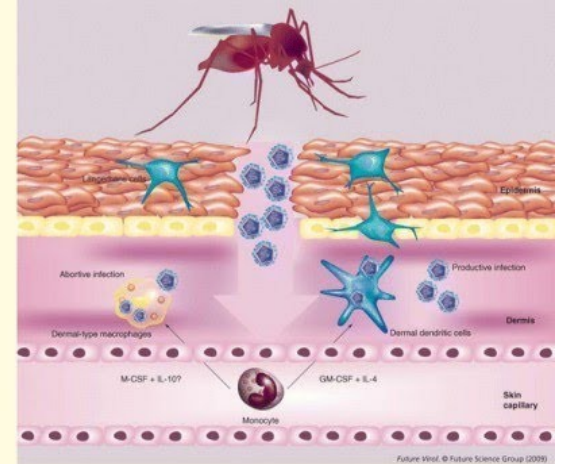
slow heart rate



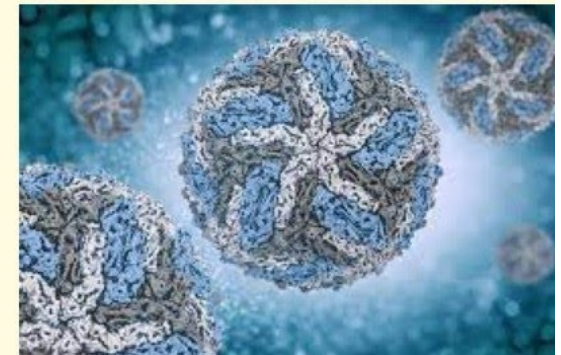
Dengue (complications)

- Internal bleeding and organ damage
- Shock
- Women who get dengue fever during pregnancy may be able to spread the virus to the baby during childbirth
- Drooping of blood pressure
- Cardiomyopathy.
- Seizures, encephalopathy, and viral encephalitis.
- Hepatic injury.
- Depression.
- Pneumonia.
- Iritis.
- Orchitis.
- Oophoritis

Viral hemorrhagic fever

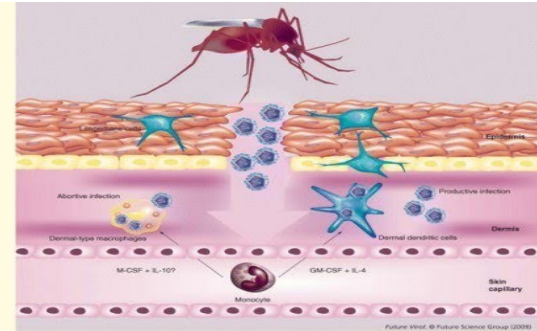


Viral hemorrhagic fever



Hemorrhagic Fever

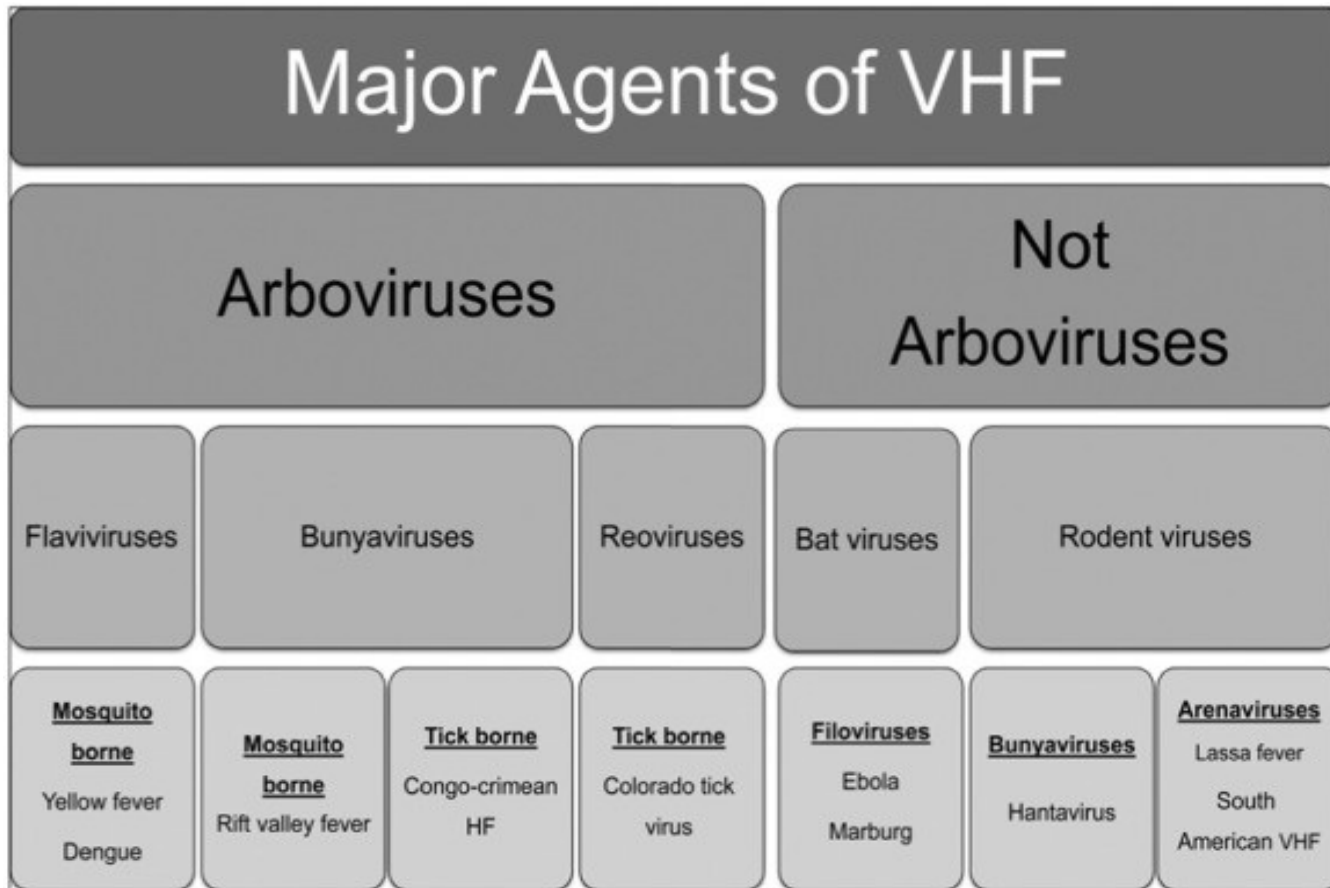
- **Definition** : The term “viral hemorrhagic fever” refers to a condition that affects many organ systems of the body, damages the overall cardiovascular system, and reduces the body's ability to function on its own.



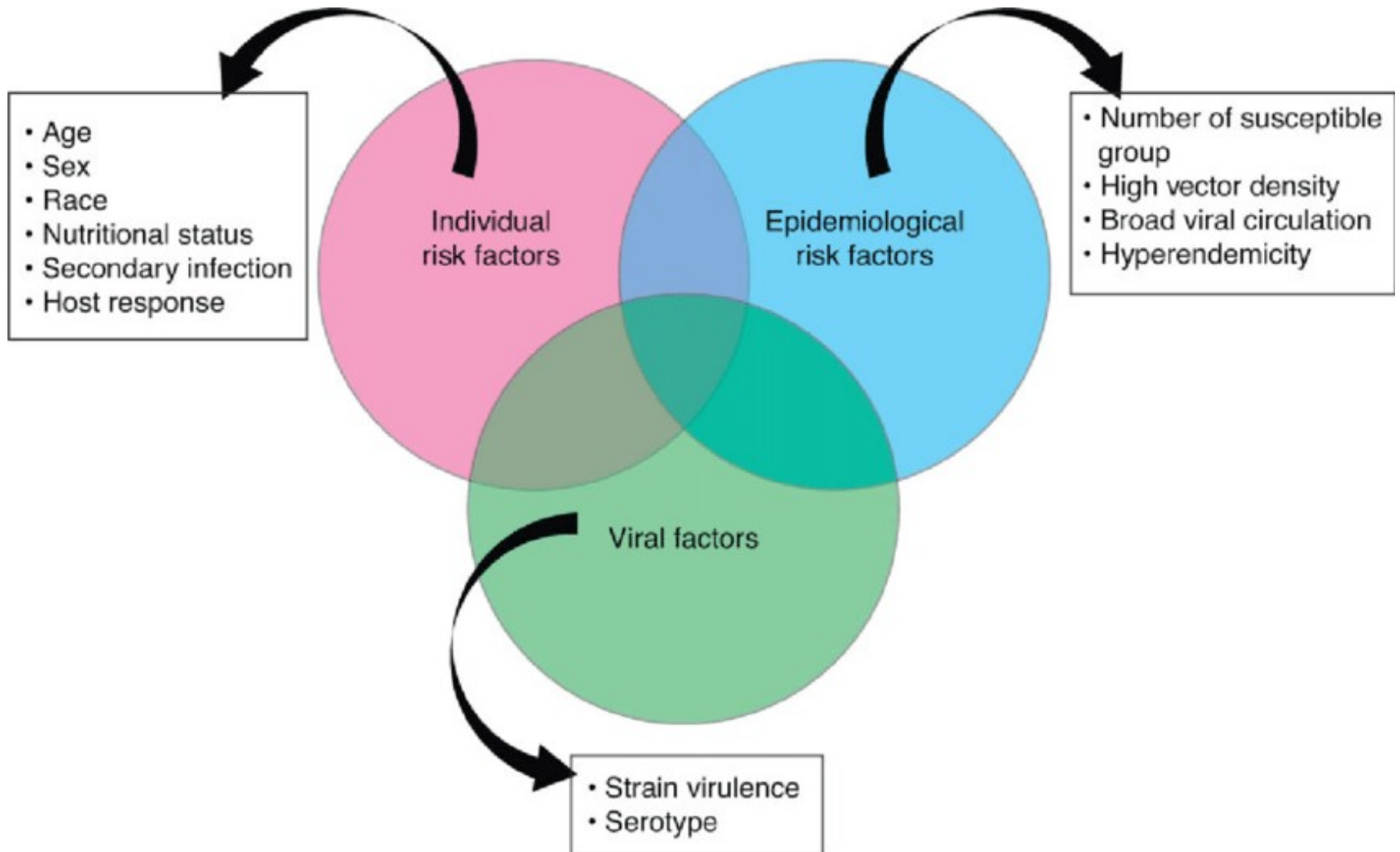
Viral hemorrhagic fever



Hemorrhagic Fever Types



Hemorrhagic fever (Risk factors)



Hemorrhagic fever (Prevention/Symptoms)

SYMPTOMS



FEVER &
HEADACHE



MUSCLE
ACHE



DIZZINESS



SORE EYES



VOMITING



DIARRHEA



BLEEDING &
BRUISING

PREVENTION METHODS



LONG SLEEVES, LONG
TROUSERS, SOCKS



AVOID PHYSICAL CONTACT WITH
CCHF-INFECTED PEOPLE



WASH HANDS REGULARLY
AFTER VISITING ILL PEOPLE



DON'T TOUCH ANIMALS
AND RAW MEAT

Hemorrhagic fever (Epidemiology)

- Hemorrhagic fever are zoonosis : Animal Host(Rodent) and Arthropod are main Reservoirs.

A: Natural infection to Humans

- a) Bite
- b) Aerosol
- c) Direct Contact

B: Human to Human Nosocomial

- d) Mucous
- e) Aerosols
- f) Semen
- g) Vomitus etc

Hemorrhagic Fever (Complication)

- Internal bleeding and organ damage
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