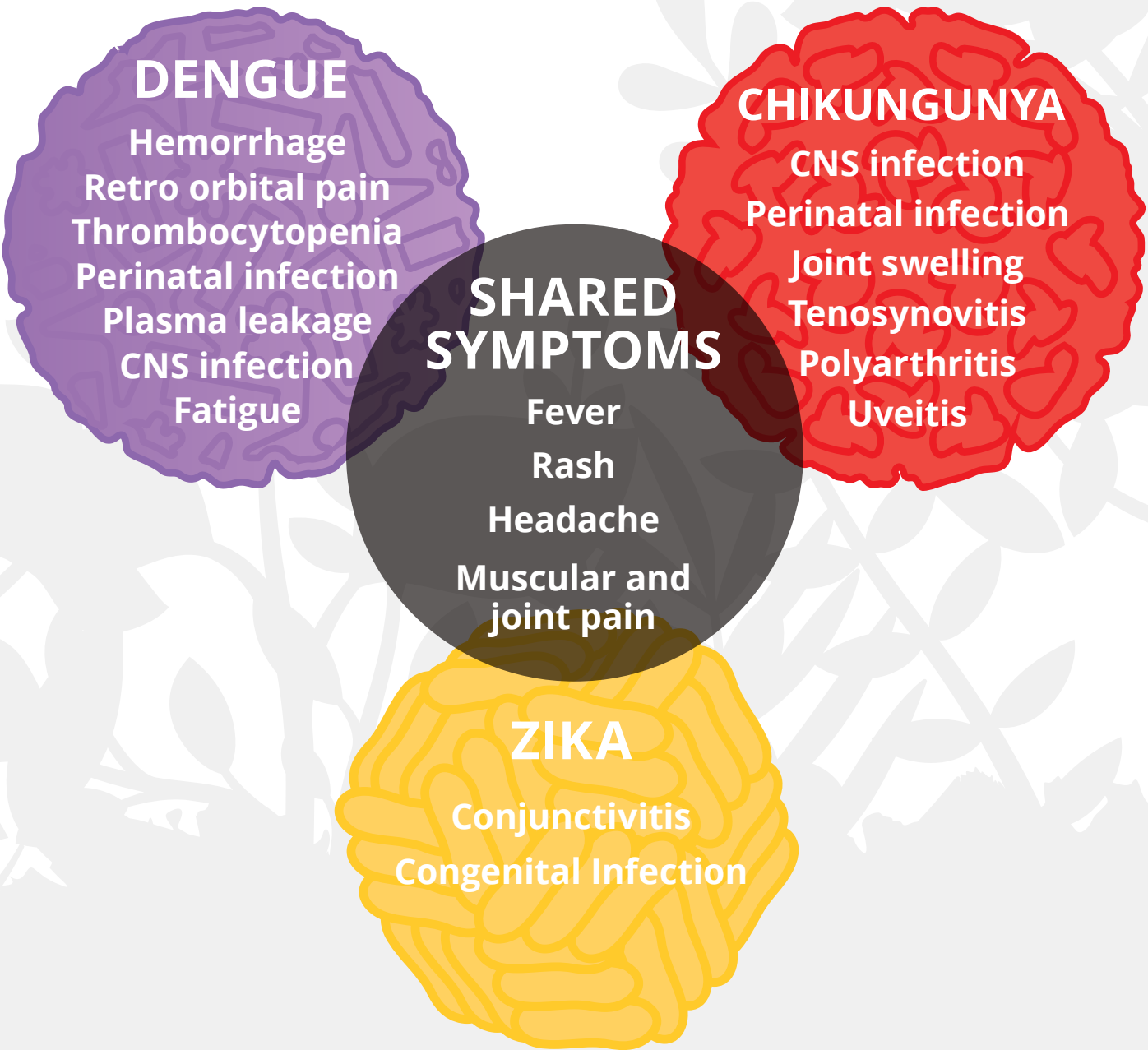


EFFECTS OF DENGUE

Diagnosis of DENV infection can prove challenging as its clinical presentation is very similar to many diseases with the same endemic geography and mosquito vectors, such as Zika virus infection.^{1,2}

How can we differentiate between these *Aedes* mosquito borne diseases?

See the diagram on the right for the signs and symptoms each disease might trigger, including some symptoms associated with more severe forms of disease.³⁻⁵



EFFECTS OF DENGUE

Infection with any of the four dengue serotypes can produce the full spectrum of illness and severity, ranging from an asymptomatic infection to mild, non-specific febrile syndrome to severe dengue.^{1-3*}

Select one of the links below to find out more

Asymptomatic

Dengue fever

Introduction to dengue fever

Asymptomatic illness vs. dengue fever

Severe dengue

Dengue risk factors

Primary vs. secondary infection

Asymptomatic Dengue

Most dengue cases are asymptomatic; approximately 25% lead to clinically apparent disease, and around 5% of these may be severe cases.^{4,5}

People with asymptomatic infections can still transfer to an *Aedes* mosquito.^{6,7*}

Even asymptomatic dengue may increase risk of severe dengue upon second infection with a different serotype.^{8*}



*Data based on dengue-endemic populations

References



PREV

NEXT

EFFECTS OF DENGUE

Infection with any of the four dengue serotypes can produce the full spectrum of illness and severity, ranging from an asymptomatic infection to mild, non-specific febrile syndrome to severe dengue.^{1-3*}

Select one of the links below to find out more

Asymptomatic

Dengue fever

The febrile phase is often associated with high fever, generalized pain, and headache.⁴

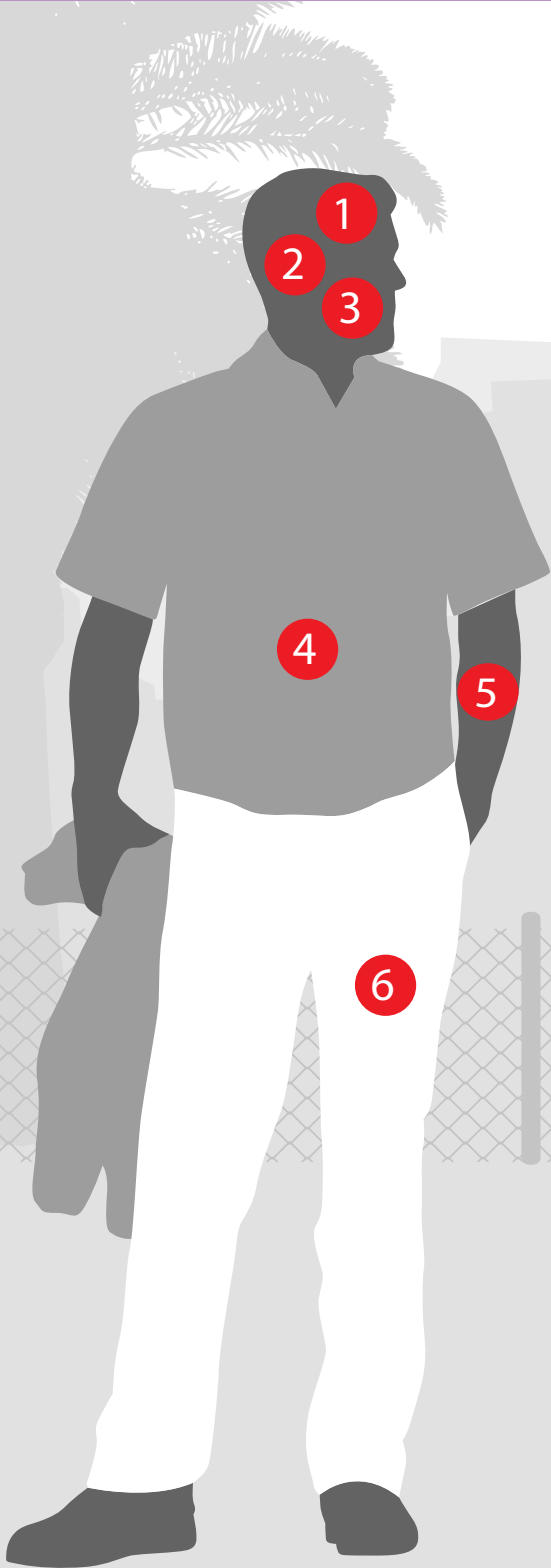
Rashes occur in 50-80% of patients with symptoms.

Leukopenia and nausea/vomiting may also be observed.^{4,5}

Dengue Fever

Dengue fever presents as a tri-phasic illness.⁶

Select one of the phases below to find out more.



Fever phase
(2 - 7 days)



Critical phase
(1 - 2 days)



Recovery
phase

Symptoms of dengue⁷⁻⁹

- 1 Headache
- 2 High fever
- 3 Nausea/Vomiting
- 4 Abdominal pain
- 5 Skin rash
- 6 Muscle ache

*Data based on dengue-endemic populations

EFFECTS OF DENGUE

Infection with any of the four dengue serotypes can produce the full spectrum of illness and severity, ranging from an asymptomatic infection to mild, non-specific febrile syndrome to severe dengue.^{1-3*}

Select one of the links below to find out more

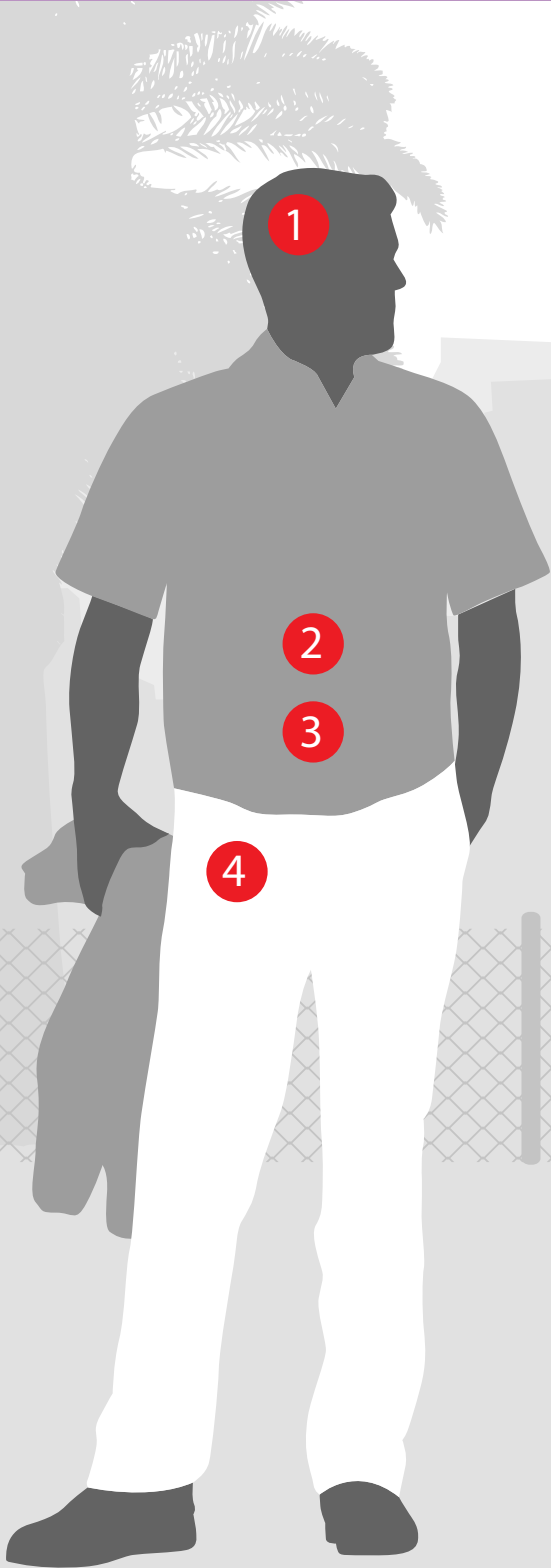
Asymptomatic

Dengue fever

The critical phase typically lasts 1-2 days. During this phase, the permeability of blood vessels increases. Most patients clinically improve during this phase, but some may develop severe dengue due to plasma leakage, fluid accumulation in the chest and abdominal cavities, respiratory distress, severe bleeding, or organ impairment.^{4,5}

Dengue Fever

Dengue fever presents as a tri-phasic illness.⁶
Select one of the phases below to find out more.



Fever phase
(2 - 7 days)



Critical phase
(1 - 2 days)



Recovery
phase

Symptoms of dengue⁷⁻⁹

- 1 Nausea/Vomiting
- 2 Abdominal pain
- 3 Mucosal bleeding
- 4 Fluid accumulation

*Data based on dengue-endemic populations

EFFECTS OF DENGUE

Infection with any of the four dengue serotypes can produce the full spectrum of illness and severity, ranging from an asymptomatic infection to mild, non-specific febrile syndrome to severe dengue.^{1-3*}

Select one of the links below to find out more

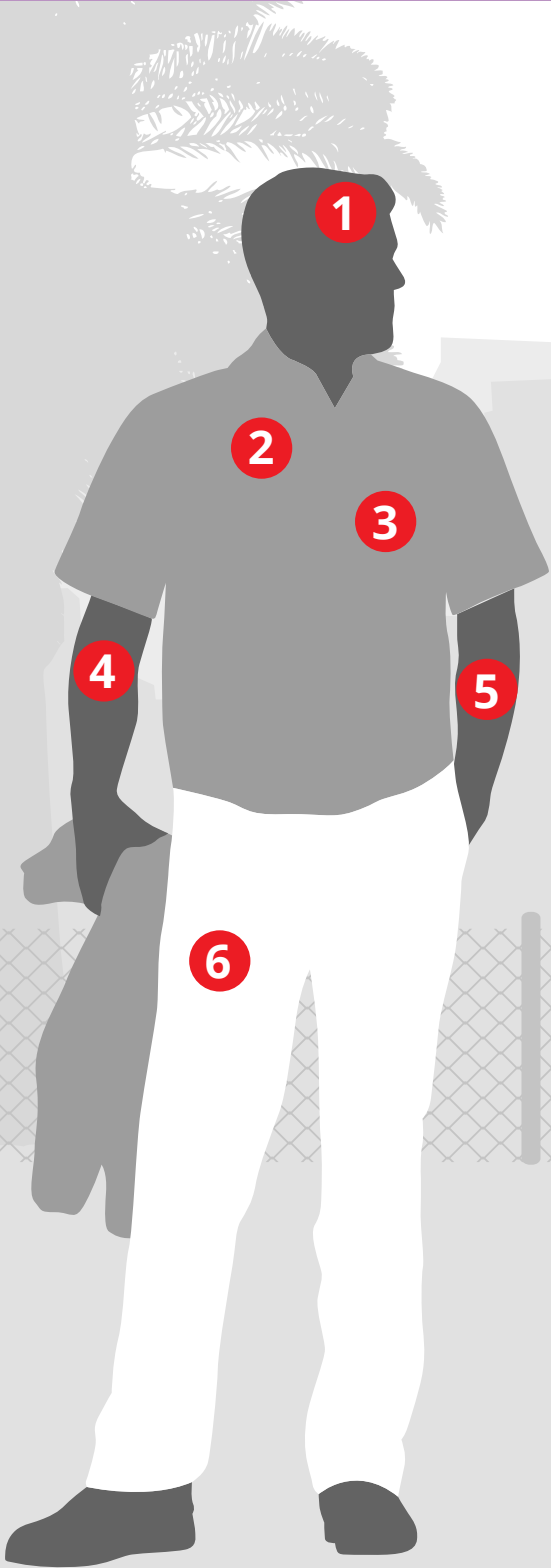
Asymptomatic

Dengue fever

The recovery phase can include other warning signs of progression to severe disease, which can be caused by resorption of leaked fluid into the bloodstream and fluid overload: lethargy or restlessness, seizures, itching, and/or a slowed heart rate.^{4,5}

Dengue Fever

Dengue fever presents as a tri-phasic illness.⁶
Select one of the phases below to find out more.



Fever phase
(2 - 7 days)



Critical phase
(1 - 2 days)



Recovery
phase

Symptoms of dengue⁷⁻⁹

- 1 Fatigue
- 2 Seizures
- 3 Slowed heart rate
- 4 Itching
- 5 Skin rash
- 6 Fluid accumulation

*Data based on dengue-endemic populations

What are the signs of severe dengue?

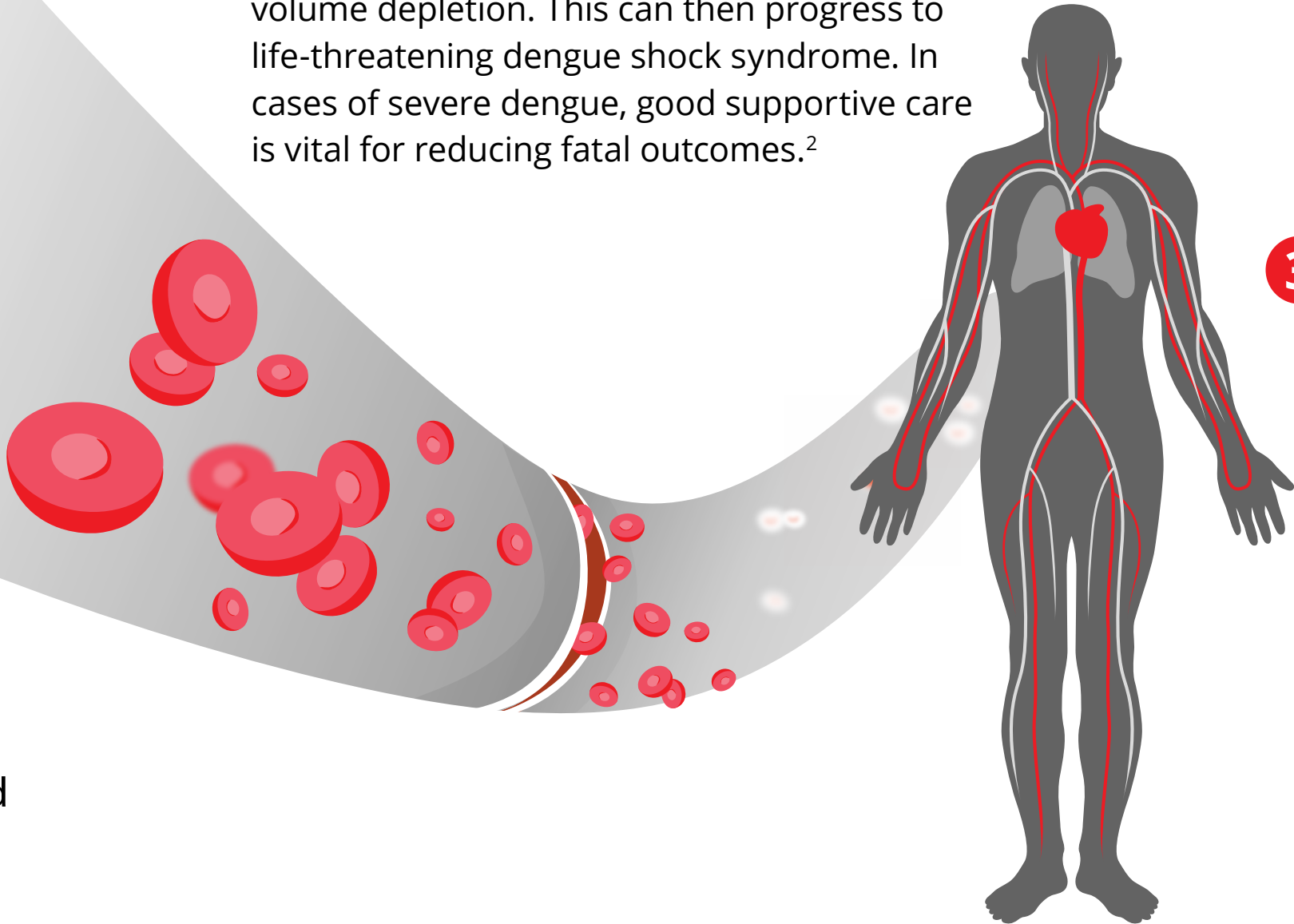
- 1

Increased vascular permeability is the hallmark of severe dengue and can lead to intravascular volume depletion. This can then progress to life-threatening dengue shock syndrome. In cases of severe dengue, good supportive care is vital for reducing fatal outcomes.²
- 2

Depletion of fluid from the circulation can cause decreased blood supply to vital organs, resulting in organ dysfunction and severe bleeding.^{3,4}
- 3

Proper medical care is essential to avoid long term complications and risk of death.³

Anyone infected can potentially experience severe illness, but additional risk factors for severe dengue include prior DENV infection and certain pre-existing conditions such as obesity, hypertension, and asthma.¹



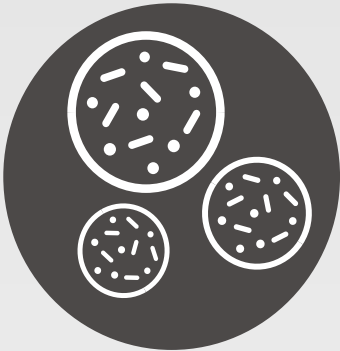
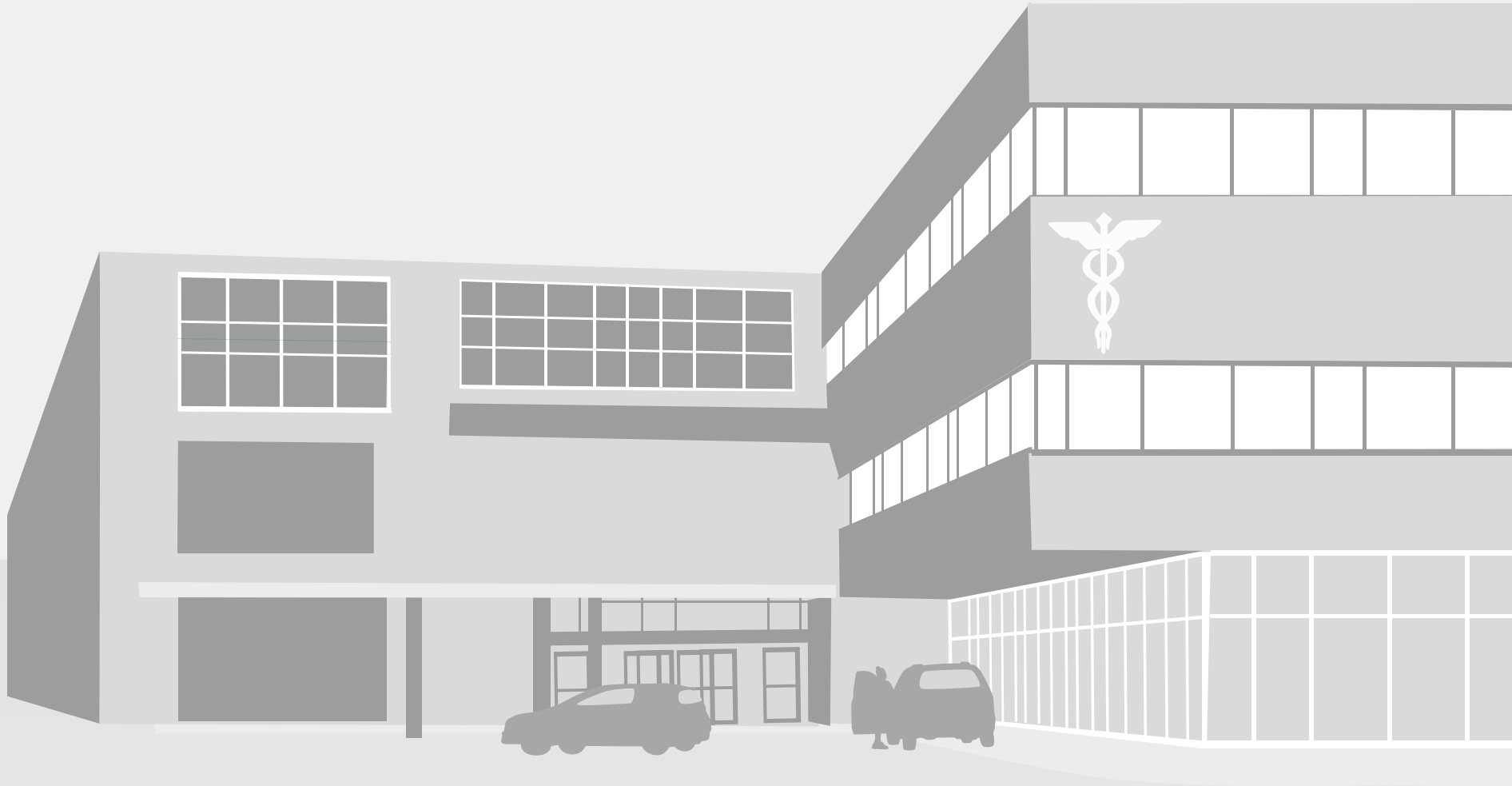
EFFECTS OF DENGUE

The presence of comorbidities, including diabetes, cardiac disorders, renal insufficiency, and obesity, as well as previous disease exposure, and pregnancy are associated additional risk factors for severe dengue disease.¹⁻⁴

As with other infectious diseases, compared with non-pregnant women with dengue, pregnant women are at a higher risk of severe dengue complications, especially in the third trimester.^{2,5}

Click below to find out more about the additional risk factors associated with the development of severe dengue

See risk factors



CLOSE

Risk factors associated with severe dengue

Chronic diseases

DENV infections can be severe or life-threatening when they occur in individuals with asthma, diabetes mellitus, hypertension or hypotension, allergies, cardiovascular disease, obesity, renal disease, or those who are taking certain medications, such as steroids.⁶⁻¹⁶

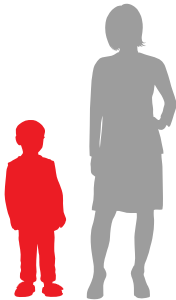
Other infections

Recent infections or co-infections with other pathogens, such as malaria, influenza, and COVID-19, may increase the risk of complications in individuals with dengue.¹⁷



Age

Data from endemic countries show that people of all ages, including children and adults, can be at risk of severe dengue disease.^{10,11,18,19} Although primary DENV infections among children are more likely to cause mild symptoms or be asymptomatic, upon secondary infection, children are more likely to progress to dengue shock syndrome than adults. This is because their microvasculature is intrinsically more permeable, and they are less able to compensate for capillary leakage.^{20,21} Older age is associated with an increased risk of severe dengue.²²



Primary infection is usually asymptomatic or mild.¹
Subsequent infections (secondary infection) by other serotypes increase the risk of developing severe dengue.²

Select one of the links below to find out more

Primary infection

Secondary infection

Primary Infection

In highly endemic countries, severe cases associated with primary dengue infections tend to be observed mainly in young children.^{3,4*}



*Data based on dengue-endemic populations

Primary infection is usually asymptomatic or mild.¹
Subsequent infections (secondary infection) by other serotypes increase the risk of developing severe dengue.²

Select one of the links below to
find out more

Primary infection

Secondary infection

Secondary Infection

First infection with a dengue serotype may sensitize an individual and lead to higher risk of more severe disease upon second infections with a different serotype.²⁻⁴

Initially, after a first DENV infection, there is a period of protection against infection from another DENV serotype. This is termed heterotypic cross-protection and is temporary and short-lived, lasting from several months to 1-2 years. Subsequently, the cross-protective immunity wanes as antibody titers diminish. After this period of 1-2 years, infection with another DENV serotype increases the risk of developing into severe dengue.^{5,6}

