

Joint UKBTS Professional Advisory Committee ⁽¹⁾

Position Statement

Dengue Virus

November 2015

Approved by: Standing Advisory Committee on Transfusion Transmitted Infections

November 2015 - The contents of this document are believed to be current. Please continue to refer to the website for in-date versions.

Background

Dengue fever is an acute infection caused by dengue virus, and is the most common insect borne human disease worldwide. It is estimated that globally, there are at least 100 million cases of dengue fever and several hundred thousand cases of the more severe dengue hemorrhagic fever per year, with up to 10% fatality rate, mainly among children.

There are four distinct variants of dengue virus all of which have the potential to cause all forms of the disease. Infection with one variant confers lifelong immunity to that variant, but only short term protection against the other variants. Subsequent infection with a second variant increases the risk of developing dengue haemorrhagic fever.

Not all infections result in clinically apparent disease with up to 75% of cases being asymptomatic or very mild symptoms with resolution within 2-3 weeks. Symptomatic cases may range from nonspecific acute febrile illness to severe disease including dengue haemorrhagic fever and dengue shock syndrome.

The dengue virus is primarily transmitted through the bite of an infected *Aedes aegypti* (main vector) or, less widespread, *Aedes albopictus* mosquito. There is no epidemiologically important animal reservoir. *Aedes aegypti* is found worldwide between latitudes 35°N and 35°S, and dengue is currently considered endemic in approximately 128 countries, at least 40% of the world's population.

The highest burden of disease occurs in the Indian sub-continent, Africa, SE Asia and the Western Pacific, where dengue fever is found mostly during or shortly after the rainy season due to more intense mosquito activity, but over the last few years there has been a rising trend in South America and the Caribbean.

Cases are also increasingly being reported outside tropical areas. The continued increase in urbanisation, population growth and global travel introduces the different serotypes into new populations. Dengue fever is an emerging disease in parts of Europe; during 2010 locally acquired cases were reported in Croatia and France. In October 2012 the first locally acquired cases were reported in the Autonomous Region of Madeira.

Indigenous infection does not occur in the United Kingdom, but cases are reported each year in travellers returning from endemic areas. In 2013 in England, Wales and Northern Ireland there were 541 individual cases of confirmed (318, 59%) and probable (223, 41%) dengue fever reported by the PHE Rare and Imported Pathogens Laboratory (RIPL), these figures being 58% higher than in 2012 (343 cases reported). Between 2009 and 2013, there has been an overall average annual increase of 53%. Of the 541 cases, travel history was obtained for 456 (84%), 69% of the cases were acquired in Southern or South Eastern Asia,

Joint UKBTS Professional Advisory Committee ⁽¹⁾

Position Statement

Dengue Virus

November 2015

16% from the Caribbean and 7% from Central and South America. However active dengue surveillance is not performed in the UK and the true incidence of dengue fever in UK travellers is likely to be under-reported due to the high proportion of asymptomatic cases.

Information about international outbreaks of dengue is available on the National Travel Health Network and Centre (NaTHNaC) website: [NaTHNaC website](#).

There is no evidence of person-to-person transmission except via blood and other donated products. Blood donations in countries with outbreaks of dengue fever have been found to contain virus and cases of transmission via blood transfusion and through solid organ and tissue transplantation have been reported. At present the only treatment available is symptomatic. However vaccine development has been ongoing for some time with some potentially effective candidate vaccines currently undergoing clinical trials.

Visitors to many dengue affected areas will be excluded from donation for six months under current malaria guidelines. However, not all affected areas are covered by malaria exclusions. Visitors to dengue affected areas should not donate blood or tissues for six months from their return to the UK if they have been infected or may have been infected with dengue virus, or for four weeks from their return if they have had no symptoms suggesting that they may have been infected with dengue virus.

Countries affected by dengue virus and any applicable time limits are shown in the Geographical Disease Risk Index (GDRI) and any associated Change Notifications.

⁽¹⁾ **Joint United Kingdom Blood Transfusion Services Professional Advisory Committee**