

History Timeline Transcript

This transcript supplements the *Yellow Fever: History, Epidemiology, and Vaccination Information* lesson.

Table 1. History Timeline

Date	Event
3000 B.C.E.	Yellow fever has had an important role in the history of Africa, the Americas, Europe, and the Caribbean. Scientists believe that yellow fever evolved in Africa around 3,000 years ago.
1600s	Yellow fever was imported into the western hemisphere on slave ships from West Africa.
1648	The first definitive evidence of yellow fever in the Americas was in Mayan manuscripts describing an outbreak of the disease in the Yucatan and Guadeloupe.
1668-1699	Outbreaks were reported on the eastern coast of the United States, including in New York (1668), Boston (1691), and Charleston (1699).
1700s	Yellow fever spread to Europe.
1730	In one of the first epidemics described, 2,200 deaths were reported in Cadiz, Spain. This epidemic was followed by outbreaks in French and British seaports. Over the next century, widespread epidemics were recorded in tropical and subtropical areas of the Americas, including the West Indies, Central America, and the United States.
1800s	Until the mid-1800s, scientists believed yellow fever was spread by direct contact with infected individuals or contaminated objects.
1848-1881	The first suggestions that the vector might be a mosquito were made by the American physician Josiah Clark Nott in 1848 and by Cuban physician Carlos Finlay in 1881.
1839-1860	Annual outbreaks in New Orleans led to more than 26,000 cases of yellow fever.
1898	Yellow fever caused difficulties for the U.S. Army in Cuba during the Spanish-American War; reportedly more soldiers died of the disease than in battle. The ongoing outbreaks prompted military efforts for further research and the formation of the Reed Yellow Fever Commission led by Walter Reed, an American army surgeon.
1900	The Reed Yellow Fever Commission proved that yellow fever infection is transmitted to humans by the <i>Aedes aegypti</i> mosquito.
1905	The last outbreak in the United States occurred in New Orleans.
1906	Following the demonstration that <i>Ae. aegypti</i> mosquitoes are responsible for transmission of the yellow fever virus to humans, intense sanitation programs began in Panama and Havana, Cuba. These efforts led to the eradication of the disease in these areas. Eradication of yellow fever in Panama enabled completion of the Panama Canal in 1906. The previous construction had been hampered severely by yellow fever infection among the workers.
1930	Two yellow fever vaccines were developed, the 17D vaccine and the French neurotropic vaccine.
1940s	Mass campaigns were conducted using the 17D vaccine in South America and the French neurotropic vaccine in French-controlled areas of Africa.
1950	Doctors became concerned with the high rate of postvaccinal encephalitis following administration of the yellow fever vaccine to infants. The range of yellow fever virus transmission in the Americas expanded, and cases were reported in Panama for the first time in 43 years. Before the end of the decade, the disease had spread throughout Central America, finally stopping near the border of Guatemala and Mexico.
1960s	Yellow fever cases occurred in both Africa and the Americas. Thousands of cases were reported in West Africa, where vaccination coverage had waned or was absent, and in Ethiopia where the disease was not reported previously.

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1980s	A major increase in the incidence of the disease occurred in Africa. An estimated 120,000 cases and 24,000 deaths were reported in Nigeria alone. Ecological surveillance of jungle mosquitoes and monkeys showed that these expansions occurred because of an amplification of the disease in nonhuman primates. From a public health perspective, however, the fundamental problem was poor or nonexistent vaccine coverage, despite its availability and cost-effectiveness.
1982	Because of high rates of postvaccinal encephalitis, the French neurotropic vaccine was abandoned. The 17D vaccine became the standard for use in immunization for yellow fever worldwide.
2000s	<p>Yellow fever vaccine was incorporated into the routine childhood vaccinations of several South American and African countries. While this strategy decreases the number of persons susceptible to the disease over time, a large portion of the at-risk population is not covered in the short-term. Hundreds of cases of yellow fever from endemic countries in South America and Africa are still reported annually to the World Health Organization (WHO).</p> <p>Two virus substrains are currently used in the production of yellow fever vaccines: 17DD, which is used in Brazil, and 17D-204 in all other vaccines, including the Sanofi Pasteur vaccine, YF-VAX®, which is used in the United States. WHO estimates that thousands of yellow fever cases each year go unreported. Many are not recognized due to asymptomatic infections and lack of effective surveillance systems. The International Health Regulations (IHR) of the WHO permit countries to establish entry requirements for yellow fever vaccination to protect their citizens and prevent the spread of yellow fever within their borders. Many governments now require travelers who enter their countries to show official proof of vaccination against the disease. Due to the possibility of contraindications in specific groups, it is especially important that vaccine providers be knowledgeable and understand the circumstances surrounding administration of the vaccine.</p>

