stronger immunities. stronger communities.

Where it All Began

The world has a history, and so do vaccines. Learn where everything started by taking this quiz!

Who do you think would have received the most antigens (immunologic components) in vaccines?

a) Children born in 1995

b) Children born in 1942

i. Children born in 1942 received four vaccines that contained more than 3,000 antigens (immunologic components). Conversely, children today receive 14 vaccines that contain fewer than 150 immunologic components.

c) Children born in 1976

d) Children born in 2009

When was the first smallpox vaccine (called variolation) verifiably used by physician Edward Jenner?

a) 1796

i. The smallpox vaccine, introduced by Edward Jenner in 1796, was the first successful vaccine to be developed. He observed that milkmaids who had previously caught cowpox did not catch smallpox and showed that inoculated vaccinia protected against inoculated variola virus.

b) 1803

c) 1757

d) 1620

When did the first polio epidemic happen in the U.S.?

a) 1894

i. The first major documented polio outbreak in the United States occurred in Vermont in 1894; 18 deaths and 132 cases of permanent paralysis were reported.

b) 1910

c) 1889

d) 1846

Before polio became treatable, how was protection from the disease acquired?

a) Through the mother who had survived polio.

i. For centuries, protection from polio was passed down through the generations. Mothers who had survived polio infection themselves passed on immunity to their babies in the womb and through breast milk.

b) Through the father who had survived polio.

c) Through family relatives who had survived the disease.

d) No individual could have natural immunity. Pneumonia, diarrhea and malaria were responsible for approximately 29 percent of global deaths among children under the age of 5 in 2018.

Jonas Salk developed the first polio vaccine, which was an inactivated poliovirus vaccine (IPV). When did he launch the first human trial for the vaccine, which was then the largest human medical trial in history?

a) 1961

b) 1952

c) 1948

d) 1954

i. 4/25/1954 massive polio vaccine trial begins in U.S.
The Vaccine Advisory Committee approved a field test of Salk's polio vaccine. The trial began the next day, with the vaccination of thousands of schoolchildren. In all, over 1.3 million children participated in the trial. The trial was a randomized, double-blinded test, meaning that children were randomly assigned to either the control group or the vaccine group. It would take almost a year to analyze the results and determine whether the vaccine provided protection against polio.

An oral polio vaccine (OPV) was also developed by Albert Sabin, which was licensed in the United States in 1961. Why is it no longer used in the U.S.?

a) The OPV was not as effective as the IPV.

b) The OPV has become useless due to poliovirus mutation over time.

c) The OPV weakened virus can mutate into an extreme form and result in rare cases of paralytic polio.

i. This vaccine has the potential to revert to a form capable of causing disease. Mutations can occur when the vaccine virus replicates in the body that may result in a more serious strain. This is very unlikely, as the vaccine virus's ability to replicate at all is limited; however, mutations are somewhat common with the oral polio vaccine (OPV), a live vaccine that is ingested instead of injected. This vaccine virus can mutate into an extreme form and result in rare cases of paralytic polio. For this reason, OPV is no longer used in the United States, and has been replaced on the Recommended Childhood Immunization Schedule by the inactivated polio vaccine (IPV).

d) The OPV caused digestive issues among recipients.

Where does Hib get its name from?

a) Influenza

i. Hib was found in the middle of the influenza outbreak in 1892, which is where it gets its name even though it is not associated with the flu. At the time, scientists were not aware that the flu was caused by a virus.

b) Hibernation

c) The various diseases it can cause.

Which is true about the Hib vaccine?

a) Hib vaccines contain a very weak part of the Hib bacterium.

b) The Hib vaccine has similar traits to the flu vaccine because of the viruses' relation to each other.

c) The Hib vaccine is given to protect against diseases caused by Hib.

i. Hib bacteria can cause many types of invasive disease, including meningitis, pneumonia, cellulitis (skin infection), septic arthritis (joint infection) and epiglottitis (infection of the epiglottis, causing obstruction or closing of the windpipe). Thus, although it's sometimes said that the Haemophilus influenzae type b vaccine is given to "protect against Hib," this phrasing is not totally correct. The vaccine protects against the diseases caused by Hib, which are numerous and can be severe. All together, these Hib-caused infections are referred to generally as "Hib disease."

All of these are true about inactivated vaccines except?

a) It provides a shorter length of protection than other vaccines.

b) It is created by inactivating a pathogen.

c) Multiple doses may be required for continued immunity.

d) Though inactivated, the vaccine pathogen can still replicate.

i. Vaccines of this type are created by inactivating a pathogen, typically using heat or chemicals such as formaldehyde or formalin. This destroys the pathogen's ability to replicate, but keeps it "intact" so that the immune system can still recognize it.

Which of the following is not one of the 14 routine vaccines?

a) Tetanus

b) Dengue

i. A new dengue vaccine is approved for use in children aged 9–16 years who had a laboratory-confirmed dengue virus infection and are living in areas where dengue is endemic (occurring frequently or continuously). Endemic areas include some U.S. territories and freely associated states. The vaccine is not approved for use in U.S. travelers who are visiting but not living in an area where dengue is common.

c) Rubella

d) Pneumococcal Disease