

Reactions

Vaccines for routine immunizations are among the safest and most reliable drugs available. However, minor side effects do occur after many of the immunizations, and, rarely, a serious reaction may result from the vaccine. A number of inactive components are incorporated in vaccines to enhance their effectiveness and safety. Some of these components include preservatives, stabilizers, adjuvants, antibiotics (e.g., neomycin), and purified culture medium proteins (e.g., egg) to enhance effectiveness. A child may react to the preservative in the vaccine rather than the vaccine component; an example of this is the hepatitis B vaccine, which is prepared from yeast cultures. Yeast hypersensitivity therefore would preclude one from receiving that particular vaccine without consulting an allergist. Trace amounts of neomycin are used to decrease bacterial growth within certain vaccine preparations, and persons with documented anaphylactic reactions to neomycin should avoid those vaccines.

Most vaccine preparations now contain vial stoppers with a synthetic rubber to prevent latex allergy reactions, but health care personnel administering vaccines should make sure that the package insert specifies that there is no latex in the stopper. In the event that an individual has a severe reaction to a vaccine and subsequent immunizations are required, an allergist should be consulted to determine the best course of action. The influenza vaccine contains small amounts of egg protein, so children who have severe allergy to egg should seek the advice of an allergist regarding this vaccine. Most children with an egg allergy are reported to be likely to develop a tolerance to small amounts over time ([Settipane, Siri, and Bellanti, 2009](#)).

Some vaccines contain a preservative, thimerosal, that contains ethyl mercury. Concerns regarding possible mercury poisoning in the 1990s prompted many to put off vaccination of infants and small children for fear of childhood developmental problems, such as autism. A number of manufacturers have since stopped producing vaccines containing thimerosal. No local hypersensitivity reactions to thimerosal have been recorded, and studies on thimerosal and the potential link to autism or any other pervasive developmental disorder failed to establish a causal relationship between the two ([Hviid, Stellfeld, Wohlfahrt, et al,](#)