



# Quadrivalent Influenza Vaccines (QIV)

## New Developments in Seasonal Vaccines

### What is it?

Quadrivalent vaccines (QIV) provide coverage against two influenza A virus strains and two influenza B virus strains; the traditional trivalent vaccines (TIV) provide coverage against two influenza virus strains and only one influenza B virus strain.

### The rationale

Two influenza B viruses (Yamagata and Victoria) have been co-circulating since the 1980s, although the prevalence of the two strains varies each year. Vaccination against one type of influenza B virus offers poor cross protection against infection by the other type. Thus vaccine effectiveness is markedly reduced when there is a mismatch between the vaccine coverage and the circulating lineage of influenza B. This discordance is important, because, as noted above, trivalent vaccines provide coverage against only one of the two influenza B types.

### Influenza B Virus Disease Burden

On average, influenza B accounts for about one quarter of total influenza activity each season, but its activity can vary and can range from 1% to 60% of the total seasonal influenza activity. In addition, it causes epidemics every 2 to 4 years.

Although influenza B infects patients of all ages, it causes a disproportionately higher amount of disease relative to influenza A in children and young adults. Overall, influenza B was responsible for 34% of reported pediatric influenza deaths.

Influenza B infection is also prominent in older adults causing nursing home outbreaks.

### Safety

Quadrivalent influenza vaccines are made in the same way as the trivalent influenza vaccines. Studies have shown that QIV vaccines have a safety profile similar to TIV vaccines, with similar—mostly mild—side effects.

The World Health Organization requires that each vaccination in 2015 contain: an A/California/7/2009 (H1N1) like virus; an A/Switzerland/9715293/2013 (H3N2)-like virus; a B/Phuket/3073/2013-like virus. If you are getting the quadrivalent vaccine, then you will also be protected against a B/Brisbane/60/80/2008-like virus.