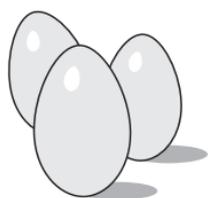


INFLUENZA VACCINE *How It's Made*

INFLUENZA STRAINS CHANGE ANNUALLY so a new influenza vaccine must be produced every year. Most influenza strains originate in Asia and travel around the world as the seasons progress. The Centers for Disease Control and Prevention (CDC) and World Health Organization (WHO) monitor and identify the strains predicted to be the most prevalent in the upcoming season. The Food and Drug Administration (FDA) analyzes the CDC data and recommends strains for inclusion in the new vaccine.

Annual influenza vaccine production is a complex process, taking up to 10 months to manufacture, purify, test and package influenza vaccine. Manufacturers begin production of each year's influenza vaccine in January. The manufacturing process is designed to ensure vaccine reaches consumers before the influenza season begins. Any delay in the process can affect the timing of influenza vaccine for the coming year.

Timeline for Production of Influenza Vaccine



JANUARY-MAY: CDC provides influenza seed viruses to the FDA, which distributes it to the manufacturers. Each seed virus is injected into fertilized chicken eggs, which are incubated for several days to allow the virus to multiply.

Influenza vaccine contains three strains of the virus; each strain is produced separately.

After incubation the eggshell is opened and the allantoic fluid (egg white) is removed to harvest the virus. The material undergoes multiple purification steps. A special chemical treatment is applied to ensure the virus is inactivated, making it impossible to contract influenza from the vaccine.

JUNE/JULY: FDA begins to test each of the company's concentrated strains to determine the yield of the virus, to ensure it is pure and the potency is adequate for immunization. The three separate strains are blended into one vaccine and filled into vials and syringes.



AUGUST: The vaccine is packaged for distribution and is kept in cold storage to ensure potency.



SEPTEMBER: Shipping begins.



Product Release

OCTOBER/NOVEMBER: Patients begin to get vaccinated against influenza. It takes about 2 weeks from the time of vaccination for immunity to develop.

