Seasonal Influenza (Flu)

Guillain-Barré Syndrome (GBS)

Questions & Answers

What is Guillain-Barré syndrome (GBS)?

Guillain-Barré syndrome (GBS) is a rare disorder in which a person's own immune system damages their nerve cells, causing muscle weakness and sometimes paralysis. GBS can cause symptoms that last for a few weeks. Most people recover fully from GBS, but some people have permanent nerve damage. In very rare cases, people have died of GBS, usually from difficulty breathing. In the United States, for example, an estimated 3,000 to 6,000 people develop GBS each year on average, whether or not they received a vaccination.

What causes GBS?

Many things can cause GBS; about two-thirds of people who develop GBS symptoms do so several days or weeks after they have been sick with diarrhea or a respiratory illness. Infection with the bacterium Campylobacter jejuni is one of the most common risk factors for GBS. People also can develop GBS after having the flu or other infections (such as cytomegalovirus and Epstein Barr virus). On very rare occasions, they may develop GBS in the days or weeks after getting a vaccination.

Who is at risk for developing GBS?

Anyone can develop GBS; however, it is more common among older adults. The incidence of GBS increases with age, and people older than 50 years are at greatest risk for developing GBS.

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How common is GBS, and how common is it among people who have been vaccinated against seasonal influenza?

GBS is rare. Medical events occur regardless of vaccination, and background rates are used to assess vaccine safety by comparing the expected rate of disease or death to the actual or observed rate in any given timeframe. The background rate for GBS in the U.S. is about 80 to 160 cases of GBS each week, regardless of vaccination.

What happened in 1976 with GBS and the swine flu vaccine?

In 1976 there was a small increased risk of GBS following vaccination with an influenza vaccine made to protect against a swine flu virus. The increased risk was approximately 1 additional case of GBS per 100,000 people who got the swine flu vaccine. The Institute of Medicine (IOM) conducted a thorough scientific review of this issue in 2003 and concluded that people who received the 1976 swine influenza vaccine had an increased risk for developing GBS. Scientists have multiple theories on why this increased risk may have occurred, but the exact reason for this association remains unknown.

It is important to keep in mind that severe illness and death are associated with influenza, and vaccination is the best way to prevent influenza infection and its complications.

How do public health authorities investigate cases of GBS?

Ensuring the safety of vaccines is a high priority for CDC. Several systems are in place to monitor vaccine safety. One of these systems is the Vaccine Adverse Event Reporting System (VAERS).

CDC and the U.S. Food and Drug Administration (FDA) co-manage VAERS, which serves as an early warning system to collect voluntary reports about possible side effects that people experience following vaccinations. CDC and FDA scientists regularly review all VAERS reports and store the information in a computerized database that is monitored to detect new, unusual, or rare health events that could be possible side effects of vaccines.

In addition to the normal vaccine safety monitoring systems, CDC has proactively put additional monitoring systems in place to ensure safety after licensing. Some of these systems include: actively observing persons in defined geographic areas, collaborating with professional organizations for reports of any adverse events after vaccination, and conducting thorough investigations when severe adverse events occur to determine whether they may have been associated with the vaccine. Through these numerous approaches, we are able to detect any possible risk of GBS that might be associated with the 2011-2012 flu vaccines as early as possible and take appropriate action.

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