



Guillain-Barré Syndrome and Vaccines

Questions and Concerns

Guillain-Barré syndrome (GBS) is a rare disorder where the body's immune system damages nerve cells, causing muscle weakness and sometimes paralysis. While its cause is not fully understood, the syndrome often follows infection with a virus or bacteria. Each year in the United States, an estimated 3,000 to 6,000 people develop GBS. Most people fully recover from GBS, but some have permanent nerve damage.

GBS is rare.

Anyone can develop GBS, but people older than 50 are at greatest risk. In addition, about two-thirds of people who get GBS do so several days or weeks after they have been sick with diarrhea or a lung or sinus illness. Infection with the bacteria *Campylobacter jejuni*, which causes gastroenteritis (including symptoms of nausea, vomiting and diarrhea), 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, people develop GBS in the days or weeks after getting a vaccination.

To study whether a new vaccine might be causing GBS, CDC would compare the usual rate of GBS to the observed rate of GBS in persons getting vaccinated. This helps to determine whether a vaccine could be causing more cases.

GBS and the link to flu vaccine

In 1976, there was a small increased risk of GBS after swine flu vaccination, which was a special flu vaccine for a potential pandemic strain of flu virus. The National Academy of Medicine, formerly known as Institute of Medicine, conducted a scientific review of this issue in 2003 and found that people who received the 1976 swine flu vaccine had an increased risk for developing GBS. The increased risk was approximately one additional case of GBS for every 100,000 people who got the swine flu vaccine. Scientists have several theories about the cause, but the exact reason for this link remains unknown.

There have been several studies of the risk of GBS after flu vaccine and CDC monitors for GBS during each flu season. The data on an association between seasonal influenza vaccine and GBS have been variable from season-to-season. When there has been an increased risk, it has consistently been in the range of 1-2 additional GBS cases per million flu vaccine doses administered.

Studies suggest that it is more likely that a person will get GBS after getting the flu than after vaccination. It is important to keep in mind that severe illness and death are associated with flu, and getting vaccinated is the best way to prevent flu infection and its complications.

CDC and FDA closely monitor the safety of all vaccines.

CDC and the Food and Drug Administration (FDA) are committed to ensuring that all vaccines are as safe as possible. Once vaccines are licensed in the United States, they are continuously monitored through several safety systems and programs. [Learn more about the nation's vaccine safety efforts.](#)

Related Scientific Articles

Kawai AT, Li L, Kulldorff M, Vellozzi C, et al. [Absence of associations between influenza vaccines and increased risks of seizures, Guillain-Barré syndrome, encephalitis, or anaphylaxis in the 2012-2013 season](#) [↗](#). *Pharmacoepidemiol Drug Saf.* 2014 May;23(5):548-53.

Nordin JD, Kharbanda EO, Vazquez-Benitez G, et al. [Monovalent H1N1 influenza vaccine safety in pregnant women, risks for acute adverse events](#) [↗](#). *Vaccine.* 2014 Sep 3;32(39):4985-92.

Greene SK, Rett MD, Vellozzi C, et al. [Guillain-Barré Syndrome, Influenza Vaccination, and Antecedent Respiratory and Gastrointestinal Infections: A Case-Centered Analysis in the Vaccine Safety Datalink, 2009-2011](#) [↗](#). *PLoS One.* 2013 Jun 26;8(6):e67185.

DA Salmon, M Proschan, R Forshee, et al.: [Association between Guillain-Barre syndrome and influenza A \(H1N1\) 2009 monovalent inactivated vaccines in the USA: a meta-analysis](#) [↗](#). *Lancet* 2013. 381:1461-1468.

Nelson KE. [Invited commentary: Influenza vaccine and Guillain-Barre syndrome—is there a risk?](#) [↗](#) *Am J Epidemiol.* 2012 Jun 1;175(11):1129-32.

Greene SK, Rett M, Weintraub ES, et al. [Risk of confirmed Guillain-Barre syndrome following receipt of monovalent inactivated influenza A \(H1N1\) and seasonal influenza vaccines in the Vaccine Safety Datalink Project, 2009-2010.](#) [↗](#) *Am J Epidemiol.* 2012 Jun 1;175(11):1100-9.

Jl Tokars, P Lewis, F DeStefano, et al.: [The risk of Guillain-Barre syndrome associated with influenza A \(H1N1\) 2009 monovalent vaccine and 2009-2010 seasonal influenza vaccines: results from self-controlled analyses](#) [↗](#). *Pharmacoepidemiol Drug Saf.* 2012, 21:546-552.

R Baxter, N Lewis, N Bakshi, et al. [CISA Network: Recurrent Guillain-Barre syndrome following vaccination](#) [↗](#). *Clin Infect Dis.* 2012. 54:800-804.

ME Wise, M Viray, JJ Sejvar, et al.: [Guillain-Barre syndrome during the 2009-2010 H1N1 influenza vaccination campaign: population-based surveillance among 45 million Americans](#) [↗](#). *Am J Epidemiol.* 2012. 175:1110-1119.

V Sivadon-Tardy, D Orlikowski, R Porcher, et al.: [Guillain-Barre syndrome and influenza virus infection](#) [↗](#). *Clin Infect Dis.* 2009 Jan 48:48-56 2009.

DN Juurlink, TA Stukel, J Kwong, et al.: [Guillain-Barre syndrome after influenza vaccination in adults: a population-based study.](#) [↗](#) *Arch Intern Med.* 2006. 166:2217-2221.

RA Hughes, J Charlton, R Latinovic, et al.: [No association between immunization and Guillain-Barre syndrome in the United Kingdom, 1992 to 2000](#) [↗](#). *Arch Intern Med.* 2006. 166:1301-1304.

P Haber, F DeStefano, FJ Angulo, et al.: [Guillain-Barre syndrome following influenza vaccination](#) [↗](#). *JAMA.* 292:2478-2481 2004.


T Lasky, GJ Terracciano, L Magder, et al.: [The Guillain-Barre syndrome and the 1992-1993 and 1993-1994 influenza vaccines.](#) [↗](#) *N Engl J Med.* 1998. 339:1797-1802.

JE Kaplan, P Katona, ES Hurwitz, et al.: [Guillain-Barre syndrome in the United States, 1979-1980 and 1980-1981. Lack of an association with influenza vaccination](#) [↗](#). *JAMA* 1982. 248:698-700.

ES Hurwitz, LB Schonberger, DB Nelson, et al.: [Guillain-Barre syndrome and the 1978-1979 influenza vaccine](#) [↗](#). *N Engl J*

Med 1981. 304:1557-1561.

Related Links

- [Guillain-Barré Syndrome Fact Sheet](#) 
- [Guillain-Barré Syndrome \(GBS\): Questions & Answers](#)
- [Meningococcal Vaccine Safety](#)

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