



# Guillain-Barre Syndrome

[Source: DTE](#)

## Why in News?

Peru has declared a 90-day national health emergency in response to a recent surge in [Guillain-Barre Syndrome \(GBS\)](#) cases, raising concerns about the potential connection between GBS and [Covid-19](#).

- Notably, **Peru experienced a large outbreak of GBS in 2019 as well**, with 683 suspected or confirmed cases during a specific period.

## What is Guillain-Barre Syndrome?

- **About:** GBS is a serious **autoimmune disorder** that affects the **peripheral nervous system**. It initially presents **weakness, tingling, and numbness in the limbs**, which can progress to **paralysis lasting 6-12 months or longer**.
  - The syndrome **affects the nerves responsible for muscle movement**, pain, temperature, and touch sensations.
  - While **more common in adults and males**, GBS can occur in individuals of all ages.
- **Cause:** The exact cause of GBS is unknown, but as per the [World Health Organisation \(WHO\)](#), GBS is often preceded by an infection. This could be a **bacterial or viral infection**. This leads **the immune system to attack the body itself**.
  - In rare cases, [vaccinations](#) and surgery may slightly increase the risk of **developing GBS**, but the likelihood of this happening is very low.
  - Studies have shown that the **risk of getting GBS from infections like the flu is much higher than the risk from vaccines**, such as the **flu vaccine**.
- **Treatment:** GBS treatment involves procedures like **plasmapheresis**, which **removes plasma and replaces it with other fluids**.
- **GBS and Covid-19:** GBS cases have been reported in both adults and children with Covid-19. Also, there have been concerns about cases of GBS following **administration of Covid-19 vaccines**.
  - About **100 suspected cases of GBS** were identified among the **12.8 million people** who received the **Johnson & Johnson vaccine (viral vector vaccine)**.
    - Some cases of GBS have also been reported after receiving the [Pfizer\(mRNA vaccine\)](#) and **AstraZeneca (viral vector vaccine)** as well.
  - A subcommittee of the **WHO** found that rare cases of GBS have been reported with **adenovirus vector Covid-19 vaccines, but not with mRNA vaccines**.
  - However, recent studies suggest despite these potential side effects, the **benefits of Covid-19 vaccination outweigh the risks**.
    - The **incidence rate of GBS after SARS-CoV-2 infection or vaccination is low**.

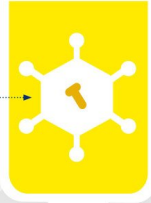
//

## How do different Covid-19 vaccines work?



### Viral vector

Uses a harmless virus which is altered to contain part of Covid-19's genetic code



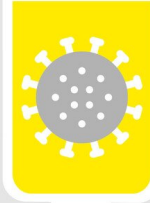
### RNA (nucleic acid)

Contains a synthetic version of part of Covid-19's genetic code (messenger RNA)



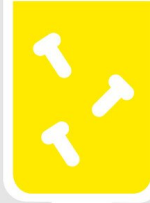
### 'Whole' virus

Contains a weakened or inactivated version of the Covid-19 virus



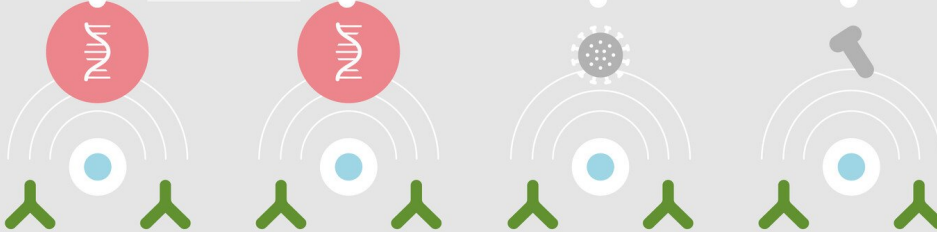
### Protein subunit

Uses pieces of the Covid-19 virus - sometimes fragments of the 'spike' protein



The code tells our cells to make the Covid-19 'spike' protein, which triggers an immune response

This triggers an immune response



Source: Gavi <https://www.gavi.org/vaccineswork/there-are-four-types-covid-19-vaccines-heres-how-they-work>

## UPSC Civil Services Examination, Previous Year Questions (PYQs)

**Q. In the context of vaccines manufactured to prevent COVID-19 pandemic, consider the following statements: (2022)**

1. The Serum Institute of India produced COVID-19 vaccine named Covishield using mRNA platform.
2. Sputnik V vaccine is manufactured using vector-based platform.
3. COVAXIN is an inactivated pathogen-based vaccine.

**Which of the statements given above are correct?**

- (a) 1 and 2 only  
(b) 2 and 3 only  
(c) 1 and 3 only  
(d) 1, 2 and 3

**Ans: (b)**