

# Immunity to COVID-19

## Infection with SARS-CoV-2

## Vaccination with COVID-19 vaccines used in the UK

**What it means for you**

**Immune response**

**Length of protection**

**Variants**



- May become **very unwell** with COVID-19.
- Potential to develop long-term complications (long COVID).
- Can spread virus to others.



- Significantly reduces chance of developing COVID-19, becoming very unwell & death.
- Induces an immune response in a **safe & controlled way**.
- Reduces chance of spreading virus to others & developing long COVID.
- Cannot give you COVID-19.



- **Varies hugely** between people. Many factors impact immune response effectiveness e.g. age.
- May be linked with disease severity; people who experience more severe illness are more likely to have higher antibody levels.



- Varies but most (even older people) produce a **strong immune response**.
- Booster dose improves immunity.
- Vaccination boosts any immunity already present from previous infection.



- Not fully known; protection wanes over time & duration varies between people.
- Most people maintain immune cells that **protect against severe disease**.



- Research ongoing but so far two doses **protect against severe disease** although protection wanes over time & duration varies between people.
- Booster dose improves length of protection.



- **Reinfection common with Omicron variant**.
- Research ongoing on effects of variants on immunity from previous infection.
- Antibodies may be less effective against reinfection with viral variants while T cells may offer cross-protection.



- **Three doses provide strong protection** against many current variants.
- Research ongoing on effects of variants on immunity from vaccines.
- Breakthrough infection possible but after booster is likely to cause milder symptoms.
- High antibody levels after booster likely to cross-protect against new variants.

Information in this infographic is correct as of February 2022.



Vaccines for COVID-19 are safe and highly effective at preventing severe disease and death. Even if you've had COVID-19, vaccination will safely boost whatever immunity you have from previous infection.

