



## Coronavirus disease (COVID-19): Serology

9 June 2020 | Q&A

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The identification of any new pathogen, such as the COVID-19 virus, is accompanied by many unknowns, particularly its ability to spread in the human population and its virulence. Initial surveillance strategies focus primarily on the use of molecular testing (RT-PCR) to measure acute infection in patients with severe disease, as these are the individuals who seek and require health care. This may miss the fraction of mild or asymptomatic infections that do not require medical attention, and as such, the full spectrum of the disease is not known. The answers to the questions below are based on our current understanding of the COVID-19 virus and the disease it causes. WHO will continue to update these answers as new information becomes available.

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**What is serology?**

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**What is the difference between molecular testing and serologic testing?**

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**Does the presence of antibodies mean that a person is immune?**

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**How is WHO using serology as part of its response?**

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**What are the expected results from serologic studies?**

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**When can we expect results?**

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**What are the limitations of serology for a novel pathogen?**

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**What are the results of seroepidemiology studies?**

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**What do these results mean?**

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### **What is herd immunity?**

Herd immunity is the indirect protection from an infectious disease that happens when a population is immune either through vaccination or immunity developed through previous infection. This means that even people who haven't been infected, or in whom an infection hasn't triggered an immune response, they are protected because people around them who are immune can act as buffers between them and an infected person. The threshold for establishing herd immunity for COVID-19 is not yet clear.

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**What is an immunity passport or a risk-free certificate and what is WHO's view of this?**

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