

Covid-19: collective and individual applications

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Faced a pressing expectation widely relayed in the general public for the rapid availability of serological allowing the indirect diagnosis of Covid-19 infection to be done, it seems necessary to consider the value of the information that these tests can provide and the strategic weight of this information in the decision making process surrounding the release from confinement.

The available tests allow the detection of IgM and IgG class antibodies specific to Sars CoV-2 in serum. They use the ELISA (enzyme linked immunosorbent assay) method applicable on high throughput machines capable of performing hundreds of tests per day. They can be performed in the majority of medical analysis laboratories. There are also rapid diagnostic orientation tests (RDTs) available in a unitary format that detect antibodies from a single drop of blood in a few minutes, but these tests are still being assessed by the National Reference Centre for Respiratory Infection Viruses and their analytical performance (sensitivity and specificity) is not yet known.

In addition, there are many unknowns concerning the kinetics of the humoral response to Covid-19 infection, including the duration of IgG persistence and the correlations between the levels of antibodies detected and the degree of protection. Until these questions can be answered by ongoing studies, it is accepted that the presence of serum IgM and/or IgG antibodies is indicative of a recent immune response to Sars CoV-2 infection and confers probable protection against re-infection. When these serological tests are authorised and available in France, their use should be guided by strategic considerations.

Considering the impossibility of testing the entire French population, the National Academy of Medicine :

- recommends that large-scale sero-epidemiological surveys be conducted to assess the proportion of the population infected during the first period of the epidemic. These surveys should be carried out in each region on representative samples of the population according to a strict methodology supervised by Santé Publique France and relayed by the Regional Health Authority (ARS) to the public and private laboratory networks;
- underlines that the results of these sero-epidemiological surveys will allow to monitor the evolution of seroprevalence in the regions throughout the deconfinement phase and during the post-epidemic phase, but that they will not constitute a major decision-making basis for the process of release from containment;
- recommends that individual serological tests be used as a priority in persons at high risk of severe forms (residents of Nursing Homes for the Elderly, patients with chronic conditions). ...) and in people working in exposed professions (medical and nursing staff, care assistants, etc.) in order to adapt prevention measures in non-immune persons on a case-by-case basis.