ACADÉMIE NATIONALE DE MÉDECINE

Covid-19: Why test? Who to test? How to test?

Press release from the National Academy of Medicine

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Why?

The rapid progression of the Covid-19 pandemic in France reveals the current limits of our direct virological diagnostic capacity by nucleic acid amplification and raises a controversy about the lack of availability of tests for diagnostic purposes, when they could be very useful. These diagnostics could be broadened and targeted to identify outbreaks of infection and to strengthen procedures for the containment and isolation of infected individuals. Subsequently, these tests will be essential for the monitoring and evaluation of future treatments and to accompany the release from confinement, including that of convalescents.

Who will be tested?

According to current government recommendations, the Sars CoV-2 detection test can only be performed on medical prescription for symptomatic patients with signs of severity requiring hospitalization, for a list of at-risk patients (immunosuppressed, diabetics, renally impaired, hypertensive, etc.), for healthcare professionals and for fragile people living in a collective structure such as establishments providing care for the dependent elderly (Établissements d'hébergement pour personnes âgées dépendantes or "EHPADs") or disabled, the results allowing for adapted care. Symptomatic patients who do not show signs of severity are not tested; after clinical examination, they must observe strict confinement at home, as well as their close contacts.

The National Academy of Medicine recommends that the detection of Sars CoV-2 be extended to symptomatic patients without signs of severity as soon as the availability of tests allows, in order to ensure their confinement as soon as possible.

How can this be achieved?

Biological confirmation of Sars CoV-2 infection is not a routine laboratory examination:

- samples must comply with strict precautions: use of swabs with dacron/polyester tips for molecular biology, deep nasal or pharyngeal swabbing carried out by experienced professionals (nurses, biologists and doctors) carefully protected in a dedicated room, transmission of samples to the reference laboratories in triple packaging according to national or international regulations for the transport of infectious substances.

- Diagnostic tests by molecular biology (extraction of viral nucleic acids, real-time RT-PCR) require equipment and technicality that currently do not allow them to be used in all medical biology laboratories, but only in level 2 biological safety laboratories (LSB2). The time required to carry out the test varies from 3 to 6 hours, without taking into account the delivery time.

As a result of these requirements, the capacity to detect Sars CoV-2 in suspect patients is currently overwhelmed by the scale of demand and reagents are running out, even though suppliers are increasing production capacity.

The National Academy of Medicine recommends that the list of approved laboratories for the diagnosis of Covid-19 be expanded beyond medical biology laboratories to include facilities with the capacity to perform the tests under the same biosafety conditions.(genetics laboratories, research laboratories, etc.). Good practice procedures should be established and monitored throughout the territory in a coordinated manner.

The National Academy of Medicine recommends that indirect serological tests be developed for the detection of antibodies specific to Sars CoV-2 in order to prepare for the implementation of sero-epidemiological surveys that will make it possible, at the end of this epidemic wave, to assess the proportion of the population infected. Similarly, the National Academy of Medicine recommends that the performance of rapid tests (TRODs) marketed for the detection of IgG and IGM specific to Sars CoV-2 be evaluated to consider, if acceptable, their use in field surveys.