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Prolonged PCR Positivity Stigma and Return-To-Work After SARS-CoV-2 Infection

To the Editor:

The COVID-19 pandemic is having unprecedented consequences on economic and health systems around the world: it is a crisis that is affecting the entire population, but in an unequal way. The National Bureau of Economic Research (NBER) found that in the United States the economic and health consequences were more than three times greater for non-remote workers than for those with a degree or who could work remotely.¹ Similar situations occurred also in Europe.^{1,2}

One of the main problems in workplaces is the return to work of who are still positive but no longer contagious. This is even more critical in healthcare, where the risk of contagion is higher and smart working almost impracticable.³⁻⁶ Furthermore, in many settings, there is lack of healthcare workers and thus their quick return to work is vital.

As the WHO has already described, detection of coronavirus RNA does not necessarily mean that a person is able to transmit the disease.⁷ In COVID-19 transmission are implied factors such as the severity of symptoms, masks use, hygiene measures, and social distancing.⁷ Since after 3 days from the symptoms onset we can detect the viral RNA peak in the upper respiratory tract, usually 5 to 10 days after the infection the body starts to produce neutralizing antibodies, coping the disease, and reducing the risk of transmission.^{7,8}

According to the evidence, it is far more reasonable to base discharge on a favorable clinical status rather than on repeated reverse transcriptase-polymerase chain reaction tests in search of a negative result. Even the evidence collected by the

American Centers of Disease Control and prevention (CDC) agrees in considering very low the contagiousness 6 days after the symptom onset.⁹ All the evidence collected leads to consider subjects almost no longer contagious 10 days after the onset.⁷ Therefore, WHO guidelines recommend discharge from isolation after at least 13 days from symptom onset.¹⁰ The CDC indications likewise recommend the interruption of isolation after 10 days from the onset, and only for some selected cases suggest an extension to 20 days.⁹ According to the European Centre for Disease Prevention and Control recommendation, the duration of isolation should be based on the individual risk assessment: 10 days for the most, up to 20 days for high-risk subjects.¹¹

In our country, Italy, the most stringent isolation measures have been adopted, since the discharge is allowed only from the 21st day both for clinically suspicious patient with PCR positive test and for those who have been positive to the control swab on the 10th day.¹² Furthermore, in some regions, the third PCR test could be carried out on the 7th day from the second positive test. If negative, the patient is discharged. If positive, the isolation must continue for another 3 days, until the 21st day. Unfortunately, this means that the subject can return to work with the "stigma" of a still positive test, even if completely asymptomatic and not contagious. We have therefore witnessed a growing mistrust of these people, who are now being more isolated than what is necessary: dedicated footpaths, special bathrooms, separate areas in changing rooms are appearing in workplaces, universities, and public areas in general.

This disease is reinforcing pre-existing stereotypes in Italy and many other areas in the world: since the beginning of this pandemic, Chinese communities have been isolated and now the necessary travel bans unfortunately reinforce this hostility.¹³

The stigma towards COVID-19 in some cases leads people to hide their test positivity, and where the health system is no longer able to handle the situation this would lead to delays in treatment and increased virus spreading. Where proper health education is lacking, people have begun to turn their frustration and fear against people recovered from COVID and even against healthcare workers.^{13,14} In Italy, such as in many other countries, differences in regional guidelines for return to work cause confusion and distrust among

both employees and employers. In spring 2020, the initial search for double PCR negativity had the effect of slowing down the resumption of work by many people, overestimating their infectivity window. This is a problem in all the occupational environments,¹⁵ but it is especially regrettable in a healthcare system already stressed by the pandemic.¹⁶

Once the safety of return to work has been established, it is necessary to ensure that this is done under the best possible conditions, avoiding further psychological stress for returned workers and colleagues. Certainly, the shadow of a positive test performed a few days before does not help. However, even the parameter of 10 days from symptom onset cannot seem to be the only reference, because the few empirical data available make it difficult to apply these evidences on a large scale, and a case-by-case evaluation is often necessary.¹⁷

There are several ways to address this issue. The proposal to consider safe a PCR cycle threshold (Ct) instead of the positive-negative dichotomy¹⁸ does not consider that the intra- and extra-test variability of these assays is still too high.¹⁶ Probably the best strategy is the one that considers the PCR Ct together with the severity of symptoms, immunocompromised status and, if available, the antibody serological level.^{16,17} Whereas there is not a "zero risk" approach to this issue, certainly an excessive search for negative PCR tests leads also to waste resources and to a further stress on the healthcare system.

Whatever strategy is chosen, the occupational physician will certainly have the difficult task of providing workers and employers with the appropriate scientific information to fight this stigma, not so different from the one that has plagued other patients during the epidemics of the last centuries.¹⁹

Davide Cavasin, MD

School of Medicine and Surgery
University of Milano-Bicocca
Monza, Italy

Occupational Health Service
University of Milano-Bicocca
Milan, Italy

Maria Emilia Paladino, MD

School of Medicine and Surgery
University of Milano-Bicocca
Monza, Italy

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Address correspondence to: Michael Belingheri, MD, School of Medicine and Surgery, University of Milano-Bicocca, via Cadore 48, 20900, Monza, Italy (michael.belingheri@unimib.it).

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Michele Augusto Riva, MD, PhD

School of Medicine and Surgery
University of Milano-Bicocca
Monza, Italy

Occupational Health Service
University of Milano-Bicocca
Milan, Italy

Giuseppina Persico, RM, PhD

Occupational Health Service
University of Milano-Bicocca
Milan, Italy

Michael Belingheri, MD

School of Medicine and Surgery
University of Milano-Bicocca
Monza, Italy

Occupational Health Service
University of Milano-Bicocca
Milan, Italy

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