



Protecting medical personnel from COVID-19

7 April 2020

The Board of the Federation of the European Academies of Medicine (FEAM) calls for wide and adequate protection of medical personnel from COVID-19.

Firstly, the Board of FEAM reminds the medical community two fundamental facts about protection from COVID-19:

- Given the potentially long duration of the pandemic a single RT-qPCR test is only relevant at the time it is taken and will need to be repeated as indicated by changing circumstances.
- When available and validated, the use of the antibody test should be introduced for health care workers to indicate their immune status in respect of COVID-19.ⁱ

The RT-qPCR test is highly specific for COVID-19 genome and sensitive, but can give negative results if infection is very recent, virus and RNA production are low, degradation mechanisms are activated in the nasopharyngeal tissue, or when the collection is not correct.ⁱⁱ . Such patients, either in a window of negativity for virus or false-negative for virus, will develop infection and will be contagious during their hospital stay.ⁱⁱⁱ Medical personnel who are not well protected and feel safe because of the initial negative RT-qPCR test can be at risk of infection themselves, as well as other patients in the ward. The clinical course of COVID-19 infection may be mild or subclinical while others can develop into severe fulminant disease.^{iv}

Thus, separating COVID-19 patients from those that tested negative for COVID-19 on admission may not eliminate the possibility of having on-going infection.^v If protection materials are available, good practice would be that hospitalized patients are treated as being potential COVID-19 infected on the ward and during investigations.

Currently studies are on-going to establish whether presence of specific anti-COVID-19 antibodies eliminate virus and give protection against re-infection.

In addition, attention must be given to the mental health and wellbeing of medical professionals who work under strenuous circumstances, putting their own life at risk, without a clear ending of the pandemic in sight.^{vi} As the crisis continues and the number of COVID-19 infected patients admitted in hospitals grows, medical teams will be faced with shortage of staff, medication, equipment and beds. Survival rates are variable but can be around 50% for the most severely affected ventilated patients.^{vii} In addition, some patients with serious comorbidity may not fit criteria for ventilation forcing physicians to make difficult decisions to prioritize provision of care.^{viii} Post-Traumatic stress is a well-recognized condition in healthcare professionals working in extreme challenging clinical circumstances^{ix}. It is crucial that health systems take this into serious consideration when addressing the impact that the COVID-19 crisis has on the mental health of medical professionals^{xi}.

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Federation of European Academies of Medicine – FEAM

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Rue d'Egmont, 13 | B-1000 Brussels | +32 (0)2 793 02 50 | info@feam.eu | [@FedEuroAcadMed](https://www.facebook.com/FedEuroAcadMed) | www.feam.eu

ⁱ "[SARS-CoV-2 specific antibody responses in COVID-19 patients.](#)", Okba, Nisreen MA, et al. *medRxiv* (Published 20 March 2020).

ⁱⁱ For a review on the evidence of real-time RT-PCR to detect SARS-CoV2 see "[Detection of 2019 novel coronavirus \(2019-nCoV\) by real-time RT-PCR.](#)", Corman, Victor M., et al. *Eurosurveillance* 25.3 (Published 23 January 2020, Vol 5, Issue 3).

ⁱⁱⁱ For some evidence of potential false negative results, see among others, "[Combination of RT-qPCR Testing and Clinical Features for Diagnosis of COVID-19 facilitates management of SARS-CoV-2 Outbreak.](#)", Wang, Yishan, et al. *Journal of Medical Virology* (Published 25 February 2020); "[Chest CT findings in coronavirus disease-19 \(COVID-19\): relationship to duration of infection.](#)", Bernheim, Adam, et al., *Radiology* (20 February 2020).

^{iv} For evidence on the transmission of COVID-19 by asymptomatic carriers see, among others, "[Transmission of 2019-nCoV infection from an asymptomatic contact in Germany.](#)", Rothe, Camilla, et al. *New England Journal of Medicine* (Published 5 March 2020); "[A Familial Cluster of Infection Associated With the 2019 Novel Coronavirus Indicating Possible Person-to-Person Transmission During the Incubation Period.](#)", Yu, Ping, et al. *The Journal of Infectious Diseases* (Published 18 February 2020).

^v A similar warning is included in "[Laboratory testing for coronavirus disease \(COVID-19\) in suspected human cases](#)", World Health Organization. *Interim guidance*, (Published 19 March 2020), reminding that: "one or more negative results do not rule out the possibility of COVID-19 virus infection", and recommending that: "if a negative result is obtained from a patient with a high index of suspicion for COVID-19 virus infection, particularly when only upper respiratory tract specimens were collected, additional specimens, including from the lower respiratory tract if possible, should be collected and tested".

^{vi} "[2019-nCoV epidemic: address mental health care to empower society](#)", Bao, Sun, et al. *The Lancet* (Published 7 February 2020).

^{vii} Yang X, Yu Y, Xu J, et al. [Clinical course and outcomes of critically ill patients with SARS-CoV-2 pneumonia in Wuhan, China: a single-centered, retrospective, observational study.](#) *Lancet Respir Med* 2020 (February 24 Epub ahead of print).

^{viii} "[COVID-19 pandemic: triage for intensive-care treatment under resource scarcity](#)", Swiss Academy of Medical Sciences, 24 March 2020.

^{ix} "[Post-traumatic stress disorder](#)", Bisson J., Cosgrove S., et al. *BMJ* (Published 26 November 2015); 351: h6161.

^x "[Post-Traumatic Stress Disorder: A state-of-the-art review of evidence and challenge](#)", Bryant R.A. *World Psychiatry*. 2019 Oct; 18(3): 259–269 (Published 9 September 2019).

^{xi} "[Mental health care for medical staff in China during the COVID-19 outbreak](#)", Chen, Liang, et al. *The Lancet Psychiatry*. 2020 Apr;7(4):e15-e16. (Published February 18, 2020).