

IPCRG practice driven answers on COVID-19 and respiratory questions



Is lung function testing safe during COVID-19 in the primary care setting?

What the research says

There is no evidence on the risk for COVID-19 transmission via aerosol-generating lung function tests in the primary care setting. Risk estimates have been largely extrapolated from indirect evidence and expert opinion. Lung function tests including peak expiratory flow rate and spirometry are associated with an increased risk for viral transmission via respiratory droplets. The COVID-19 virus is spread primarily via respiratory droplets. Respiratory aerosols have been implicated in viral transmission in medical settings, particularly from aerosol generating procedures. Contact with surfaces contaminated with viral particles can result in transmission if the individual then touches their face.

What this means for your clinical practice

- Our response is based on currently available indirect evidence.
- Consider the reason for the proposed test. Lung function testing should only be conducted when it is considered essential or cannot be delayed, for a diagnosis or trial of treatment in which the result will guide/change treatment choice.
- Screen patients for COVID-19. Lung function testing should be deferred for patients with a positive test result or who have been in recent contact (at least 14 days) with a person with a positive COVID-19 test result.
- Patients with current respiratory symptoms suggestive of viral infection should not undergo lung function tests until their symptoms have resolved.
- Use standard infection control measures for lung function testing including cleaning and maintenance of equipment, in-line viral filters and single use disposables.
- Manage the risk droplet dispersal via cough following a lung function test in the usual way (e.g provide tissues for the patient to cough into, dispose of tissues as clinical waste and ensure the patient washes their hands).
- Use proper personal protective equipment according to availability and National guidance. Consider using a plexiglass barrier if available. Maintain social distancing during and following the test.
- Follow National guidance for cleaning/ventilation of clinical areas. Consider conducting peak expiratory flow tests outside the building if appropriate.

Useful links and supporting references

Agency for Clinical Innovation. Lung function testing. COVID-19 advice. Available at: <https://www.health.nsw.gov.au/Infectious/covid-19/communities-of-practice/Documents/lung-function-testing.pdf>. Accessed March 2021

Association for Respiratory Technology & Physiology (ARTP) Guidance – Respiratory function testing and sleep services during endemic COVID-19. Available at: <https://www.artp.org.uk/COVID19>. Accessed March 2021

British Thoracic Society. Guidance for the resumption and continuation of urgent and elective outpatient respiratory services. Available at: <https://www.brit-thoracic.org.uk/covid-19/covid-19-resumption-and-continuation-of-respiratory-services/>. Accessed March 2021

Crimi C, et al. Practical considerations for spirometry during the COVID-19 outbreak: Literature review and insights. Pulmonology 2020. Available at: <https://www.sciencedirect.com/science/article/pii/S2531043720301756?via%3Dihub>. Accessed March 2021

European Respiratory Society. Recommendation from ERS Group 9.1 (Respiratory function technologists/Scientists) Lung function testing during COVID-19 pandemic and beyond. Available at: <https://ers.app.box.com/s/zs1uu88wy51monr0ewd990itoz4tsn2h/> Accessed March 2021

Helgeson SA, et al. Aerosol generation during spirometry. Annals ATS 2020;17:1638–9. Available at : <https://www.atsjournals.org/doi/pdf/10.1513/AnnalsATS.202005-569RL>. Accessed April 2021

Khan S, et al. A regional Canadian expert consensus on recommendations for restoring exercise on lung function testing in low and moderate-to-high community prevalence coronavirus disease 2019 (COVID-19) settings. Available at: <https://www.cambridge.org/core/journals/infectious-control-and-hospital-epidemiology/article/regional-canadian-expert-consensus-on-recommendations-for-restoring-exercise-and-pulmonary-function-testing-in-low-and-moderate-high-community-covid19-prevalence-settings/3DE66ECC8346C1D7C61DDB8AB0FAA3AD>. Accessed March 2021

Milanese M, et al. Suggestions for lung function testing in the context of COVID-19. Respir Med 2020;177:106292. Available at: [https://www.resmedjournal.com/article/S0954-6111\(20\)30432-7/fulltext](https://www.resmedjournal.com/article/S0954-6111(20)30432-7/fulltext). Accessed March 2021

New Brunswick Association of Respiratory Therapists. Position Statement Aerosol Generating Medical Procedures During an H1N1 Influenza A Pandemic. Available at: <https://www.nbart.ca/en/nbart-position-statements/position-statement-aerosol-generating-medical-procedures-during-an-h1n1-influenza-a-pandemic.html>. Accessed April 2021

Last reviewed: 20 Apr 2021

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