

Pediatric lung function testing during a pandemic: An international perspective

N. Beydon, L. Gochicoa, M.J. Jones et al. Paediatric Respiratory Reviews 36 (2020) 106–108

Background : Precautions and infection control measures for both pediatric and adult pulmonary function testing (PFT) have been a topic of debate during the COVID 19 pandemic. Many centres had to close their PFT laboratories during the initial periods of the pandemic and are reopening as the numbers of new cases are decreasing.

Aim : This review aims to summarize different practices of pulmonary function testing laboratory management in different countries, including patient appointments, personal protective equipment, testing room requirements and telemedicine during and immediately following the COVID pandemic.

Potential measures that can be taken for protection of the lung function test personnel for tidal breathing and forced measurements.

Techniques involving larger expiration than tidal volume and/or forced (spirometry, DLCO, FeNO, MIP/MEP etc) -

- Wearing FFP2 (N95) masks, gowns, gloves and face shield or goggles
- Continuous air purifying respiratory (CAPRs) use
- Adding a plexiglass (Perspex) divider between the patient and therapist

Tidal breathing techniques (like oscillometry etc) -

- Wear surgical face masks, gloves

ACADEMIC P.E.A.R.L.S

Pediatric Evidence And Research Learning Snippet



PFT testing : Precautions during Covid Pandemic

Change implemented:

Before the test :

- Indications for PFT testing is narrowed
- Patient scheduling with compliance expectations for the caregiver
- Waiting room restrictions to allow social distancing
- Questionnaire and no-contact temperature measurements on the day of the test

During the Test :

- Mouthpiece filters with viral and bacterial efficacy
- Personal protective requirements for the respiratory technician or nurse performing the test

After the test:

- Wiping down all surfaces with sanitizers after each patients
- Waiting period between patients depending on the air exchange rate in the room

Home spirometry use for specific populations may be an alternative for selected populations such as the asthmatics in the long term but it will require training of the subjects to fulfil the standards.

Conclusions: In the long term, it is probable that some changes implemented in the PFT labs during this pandemic will stay in daily practice even with no or low virus circulation.

EXPERT COMMENT

“The pandemic has necessitated reorganization of the pediatric pulmonary function testing (PFT) laboratories and practice.”

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With warm regards,

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Reference

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- 2.Bignamini E, Cazzato S, Cutrera R, Ferrante G, La Grutta S, Licari A, et al. Italian pediatric respiratory society recommendations on pediatric pulmonary function testing during COVID-19 pandemic. Ital J Pediatr 2020;46. https://doi.org/10.1186/s13052-020-00829-0.