

Personal Protective Equipment (PPE) and Infection Control SOP for spirometry/ PFT's during COVID-19

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February 2021	February 2022	2

Purpose

To direct health professionals in the correct procedures to follow when conducting Pulmonary Function Tests (PFTs) / Spirometry with patients during the COVID-19 pandemic.

Who should read this document?

This is for those who undertake spirometry or full PFT

Key Messages

This document will highlight how to safely perform these manoeuvres during the COVID-19 pandemic. It is based upon evidence from the ERS.

Core accountabilities		
Owner	Laura Roberts	
Review	Chest Clinic MDT	
Ratification	Caroline Dawe – Care Group Manager for Medicine	
Dissemination (Raising Awareness)	Chest Clinic MDT	
Compliance	Chest Clinic MDT	
Links to other policies and procedures		
Version History		
1	June 2020	Final Draft
2	February 2021	Minor amendments

The Trust is committed to creating a fully inclusive and accessible service. Making equality and diversity an integral part of the business will enable us to enhance the services we deliver and better meet the needs of patients and staff. We will treat people with dignity and respect, promote equality and diversity and eliminate all forms of discrimination, regardless of (but not limited to) age, disability, gender reassignment, race, religion or belief, sex, sexual orientation, marriage/civil partnership and pregnancy/maternity.

**An electronic version of this document is available on Trust Documents.
Larger text, Braille and Audio versions can be made available upon request.**

Standard Operating Procedures are designed to promote consistency in delivery, to the required quality standards, across the Trust. They should be regarded as a key element of the training provision for staff to help them to deliver their roles and responsibilities.

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Standard Operating Procedure (SOP)

Personal Protective Equipment (PPE) and Infection Control guidance for spirometry/ PFT's during COVID-19

1 Introduction

This SOP is designed for those who undertake PFTs / Spirometry in the clinical setting, as well in patient's homes. It is for the use of clinical staff during the COVID-19 pandemic.

2 Definitions

Spirometry – A breathing test assessing dynamic lung volumes.

AGP – aerosol generating procedure

ERS – European Respiratory Society

PFTs – pulmonary function tests

PPE – personal protective equipment

3 Regulatory Background

The ERS have published a document to advise practitioner's on lung function procedures during the COVID-19 pandemic.

Recommendation from ERS Group 9.1 (Respiratory function technologists /Scientists) Lung function testing during COVID-19 pandemic and beyond. 8th May 2020

4 Key Duties

This document will identify procedures practitioners need to take whilst conducting spirometry/ PFTs in clinical areas and in patient's home's through the COVID-19 pandemic.

5 Procedure to Follow

Spirometry and lung function should not be performed on a Covid-19 positive patient except where such a request from a consultant who is aware of the patient's Covid status and has balanced up the risks to patient, neighbouring patients and staff of performing vs delaying tests. Where testing takes place, the consultant should request the minimum number of tests possible to obtain the clinical information required.

The procedure for clinic spirometry and full PFTs need to be followed.

Main step 1

PPE to worn we completing both clinic spirometry and full PFTs.

- PPE should be worn at all times when testing patients.
- Staff should wear a surgical mask
- Eye protection should be worn. E.g. goggles or face shield.
- Disposable gloves and apron should be worn for the duration on the test. These should be discarded after each patient and after cleaning of the surfaces. These should be placed in the orange clinical waste bin.
- Hand hygiene protocols for staff should be followed before and after glove use.

Main step 2

Performing Spirometry. (Clinic Spirometry)

- Put on PPE (surgical mask, face shield/goggles, apron and gloves)
- Call patient into the room for testing.
- Check patient identity, name, date of birth and first line of address
- If patient has not had their temperature checked at reception, then check patient's temperature. Complete the COVID-19 Patient/Accompanying Person Assessment trust document with the patient.
- Measure patient's height and weight and input this into the software.
- Ensure the door in closed, the window is open and extractor fan on (if available). The NO ENTRY sign must be on the door.
- Complete relevant contraindication questioning.
- If no contraindications:
- Connect spirette with the adaptor connector attached – to the spirometer handle

- Then attach a bacterial and viral filter. (Blue Vitalograph Filter)
- Explain the test to the patient. Patient chair to be facing the open window, with extractor fan turned on if there is one available.
- Step back and be behind the patient whilst they perform the test.
- Complete three acceptable tests, dispose of filter into the orange clinical waste bin.
- Patient leaves the room.
- Keep the window open and if applicable extractor fan turned on.
- Remove gloves and apron and dispose into the orange clinical waste bin. Keep surgical mask and eye protection on.
- Leave the room, close the door, keep window open and if applicable extractor fan turned on.
- After 15 minutes put on apron and mask and enter the room.
- Wipe down all hard surfaces, chair, workstation, scales, height measure, sink etc. and clean spirometer using detergent wipes.
- A new patient can then be tested.

Performing Full PFTs

- Put on PPE (surgical mask, face shield/goggles, apron and gloves)
- Call Patient in for testing.
- Check patient identity, name, date of birth and first line of address
- If patient has not had their temperature checked at reception, then check patient's temperature. Complete the COVID-19 Patient/Accompanying Person Assessment trust document with the patient.
- Measure the patient's height and weight and input this into the software.
- Ensure the door is closed, the window is open and the extractor fan on if available. The NO ENTRY sign must be on the door.
- Complete relevant contraindication questions.
- If no contraindications:
- Connect bacterial and viral disposable filter to the sensor.

- Explain the different tests to the patient whilst they are sat in the Vyntus bodybox.
- Step back from the patient whilst they perform the test.
- Complete acceptable tests, dispose of filter and place into orange clinical waste bin.
- Patient leaves the room

Keep window open and if applicable extractor fan turned on.

- Remove gloves and apron and dispose into the orange clinical waste bin. Keep surgical mask and eye protection on.
- Leave the room, close the door, keep window open and if applicable extractor fan turned on.
- After 15 minutes put on apron and mask and enter the room.
- Wipe down all hard surfaces, chair, workstation, scales, height measure, sink etc. and clean equipment using detergent wipes.
- A new patient can then be tested after allowing for this cleaning period.

Main step 4

Performing spirometry on the wards.

Spirometry and lung function should not be performed on a Covid-19 positive patient except where such a request originates from a consultant who is aware of the patients Covid status and has balanced up the risks to patient, neighbouring patients and staff of performing and delaying tests.

- Spirometry should not be performed in an open ward. Patients should be in a side room, with the door closed and the window open.
- If spirometry cannot be completed safely on the ward, then tests should be conducted in the chest clinic. The appointment time will be arranged with the lung function team via the referral form. The patient should come down wearing mask and be ideally admitted directly into their testing room to minimise time spent in the waiting area.
- Put on PPE (surgical mask, face shield/goggles, apron and gloves)
- Check patient identity, name, date of birth, hospital wristband
- Check patient's temperature and for symptoms of COVID-19 infection. If pyrexial or displaying symptoms then discuss with referring clinician.

- Measure patients height and weight and input this into software
- Ensure door is closed, the window is open. A NO ENTRY must be on the door

- Complete relevant contraindication questioning
- If no contraindications:
- Connect a bacterial filter to the spirometer
- Explain the test to the patient. Patient chair to be facing the open window.
- Step back and be behind the patient whilst they perform the test.
- Complete three acceptable tests, dispose of filter into the orange clinical waste bin.
- Keep the window open
- Wipe down all hard surfaces, chair, bedframe, windowsill, sink etc. and clean spirometer using detergent wipes.
- Leave the room, close the door, keep window open.
- Remove PPE and dispose into the orange clinical waste bin.

Main Step 5

Performing spirometry in the home setting.

- Put on PPE (surgical mask, face shield/goggles, apron and gloves)
- Check patient's temperature and for symptoms of COVID-19 infection. If pyrexial or displaying symptoms do not conduct the test.
- Measure patient's height and weight and input this into the software.
- Ensure the door is closed, the window is open and relatives/carers leave the room.
- Complete relevant contraindication questioning.
- If no contraindications:
- Connect spirette with the adaptor connector attached – to the spirometer handle
- Then attach a bacterial and viral filter. (Blue Vitalograph Filter)
- Explain the test to the patient. Patient chair to be facing the open window.
- Step back and be behind the patient whilst they perform the test.
- Complete three acceptable tests, dispose of filter into the orange clinical waste bin/bag.
- Keep the window open.
- Wipe down all hard surfaces, chairs, table etc. and clean spirometer using detergent wipes.

- Remove PPE and dispose into the orange clinical waste bin/bag when you leave the patients home.

6 Document Ratification Process

The design and process of review and revision of this procedural document will comply with The Development and Management of Formal Documents.

The review period for this document is set as default of **12 Months** from the date it was last ratified, or earlier if developments within or external to the Trust indicate the need for a significant revision to the procedures described.

This document will be reviewed by the **Chest Clinic MDT** and ratified by the **Director Level**.

Non-significant amendments to this document may be made, under delegated authority from the **Chest Clinic MDT**, by the nominated author. These must be ratified by the **Chest Clinic MDT** and should be reported, retrospectively, to the **managerial group**.

Significant reviews and revisions to this document will include a consultation with named groups, or grades across the Trust. For non-significant amendments, informal consultation will be restricted to named groups, or grades who are directly affected by the proposed changes.

7 Dissemination and Implementation

Following approval and ratification, this procedural document will be published in the Trust's formal documents library and all staff will be notified through the Trust's normal notification process, currently the 'Vital Signs' electronic newsletter, as well as the Covid bulletin.

Document control arrangements will be in accordance with The Development and Management of Formal Documents.

The document author(s) will be responsible for agreeing the training requirements associated with the newly ratified document with the **managerial group** and for working with the Trust's training function, if required, to arrange for the required training to be delivered.

8 Monitoring and Assurance

- Lung Function procedures have had to change in light of the COVID-19 pandemic. The main changes are PPE required for testing patients and the time required to wait between testing patients.
- The author will continue to monitor guidance from the ERS as things progress in light of COVID-19
- Monitoring will be performed on a bi-weekly basis to address any changes in guidance of performing PFTs with patients.

- We will adapt our protocols in light of new evidence where necessary.
- Staff groups in University Hospitals Plymouth will be made aware of any changes in policy, and will be highlighted via the Covid bulletin.
- At the weekly meeting clinical specialists can advise of how the process has been working and ascertain if any further amendments need to be made.

9 Reference Material

- Recommendation from ERS Group 9.1 (Respiratory function technologists /Scientists) Lung function testing during COVID-19 pandemic and beyond. 8th May 2020
- Guidance. COVID-19 personal protective equipment. (PPE). Public Health England updated 3rd May 2020