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Definitions of patients at high risk of COVID-19 infection, for shielding

The guidance for patients who should shield, that is, carry out extreme isolation during the COVID-19 pandemic, has led to some confusion for patients and healthcare professionals (HCPs) across Scotland as some patients have received letters from the UK Government, and others have not. Guidance from some specialist societies has contradicted others, particularly in respect to immunosuppressive drugs. A larger issue has been the variable definition of severe asthma and who with asthma is in the very high-risk category. Patients with bronchiectasis have, in the main, been missed from initial screens of patients at risk. There has not been clarity over patients with interstitial lung disease (ILD) and sarcoidosis.

The clinical cell met with representatives from the respiratory community on 15 April 2020, following discussions with the respiratory community, to agree guidance for who is at particularly high risk, and therefore should 'shield'.

We have divided this advice into patients who are in the Group 3 and 4 categories and those in the Group 7 category.

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Group 3

Cystic fibrosis

These patients have been contacted by regional CF centres already.

Severe asthma

The definition of severe asthma varies, but we consider those who are at highest risk of poor outcome if affected by COVID are:

- Patients taking a biologic therapy (omalizumab, mepolizumab, benralizumab, dupilumab)
- Patients taking three times a week azithromycin
- Patients taking long-term steroids at a dose of more than 10 mg daily for more than 4 weeks
- Patients taking a steroid-sparing agent such as methotrexate, azathioprine, mycophenolate mofetil (MMF)
- Patients who have received 3 or more courses of oral steroid in the preceding year.

Patients with severe asthma should be contacted to consider shielding.

Severe chronic obstructive pulmonary disease

Many patients with COPD have already been contacted. Patients with severe COPD who should be considered for shielding:

- Patients with COPD and co-existent bronchiectasis
- Patients who are too breathless to walk 100 yards
- Patients on long-term Oxygen Therapy (these patients have been contacted already)
- Patients on long term non-invasive ventilation for type 2 respiratory failure
- Patients in group D of the GOLD classification
- Patients on an active transplant list
- Patients taking regular prophylactic oral antibiotics, usually a macrolide, but also daily doxycycline, co-trimoxazole, or penicillin.

It should be noted that there are patients who make the definition of Group D due to being inappropriately on 'triple' therapy. There are also patients with co-existent asthma and COPD who take 'triple' therapy with moderate COPD. These issues should be considered when advising over the need to shield, which is a significant undertaking.

Group 4

Interstitial lung disease

Patients with ILD should already have been contacted and advised to shield, along with patients on immunosuppression and on antifibrotic therapy. However, some will not be in the highest risk category and do not require shielding.

We would recommend that the following ILD patients should be shielded:

- Patients that have a diagnosis of Idiopathic pulmonary fibrosis (IPF)/probable IPF/possible IPF/working diagnosis of IPF
- Patients that have any form of ILD that are in one or more of the following groups:
 - deemed palliative
 - on long-term oxygen
 - on antifibrotics (pirfenidone and nintedanib)
 - on prednisolone >5 mg/day
 - on immunosuppressants (azathioprine, MMF, methotrexate, on cyclophosphamide in the last 6 months).

We would recommend that the following ILD patients do NOT require shielding:

- Patients with a historical diagnosis of ILD that are no longer on treatment for ILD and are not being followed up in secondary care.

For ILD patients that do not fit into these categories, the appropriate consultant should be contacted for advice.

Sarcoidosis

Patients with sarcoidosis should already have been contacted directly and advised that they may have to shield. However, many will not be in the highest risk category and do not require shielding.

We would recommend that the following patients should be shielded:

- Patients that have documented ongoing parenchymal lung disease (often referred to as stage 2,3 or 4 sarcoidosis) *and*
 - are on oxygen and/or
 - corticosteroids (any dose) and/or
 - immunosuppression (including methotrexate).

We would recommend the following sarcoidosis patients do NOT require shielding:

- Patients with a historical diagnosis of sarcoidosis but are not on treatment and are not being followed up in secondary care
- Patients that have no documented parenchymal lung disease (often referred to as stage 0 or 1 sarcoidosis) and are not on corticosteroids equivalent to prednisolone 20 mg per day for 4 weeks or more OR corticosteroid equivalent of prednisolone ≥ 5 mg/day for 4 weeks or more AND on other immunosuppressive therapy.

For sarcoidosis patients that do not fit into these categories, the appropriate specialty consultant should be contacted for advice.

Group 7

Bronchiectasis

Patients at highest risk of COVID are defined as:

- Patients taking regular prophylactic oral antibiotics, usually a macrolide, but also daily doxycycline, co-trimoxazole, or penicillin
- Patients taking regular prophylactic inhaled antibiotics, such as colomycin, tobramycin, gentamicin
- Patients colonised with pseudomonas aeruginosa
- Patients requiring 4 or more courses of antibiotics in a year.

This group of patients will include patients with underlying immunodeficiencies picked up by other mechanisms, and also patients with primary and secondary ciliary dyskinesias.

Patients with other chronic lung infections (pulmonary tuberculosis, chronic fungal infection, atypical mycobacteria) and on active treatment for these conditions should be shielded as well: if in doubt speak to your local respiratory team.

Patients receiving ventilatory support

Patients on domiciliary non-invasive ventilation (NIV) for conditions such as motor neurone disease (MND) should be considered high risk and advised to shield. This should include patients with COPD with are on home NIV. The speciality teams looking after these patients should already have contacted these patients and advised them to shield.

Pulmonary hypertension

These patients have been contacted by the Scottish Pulmonary Vascular Unit (SPVU).

Primary ciliary dyskinesia

There are small numbers of patients with PCD, with very variable disease. Refer to the severity markers for bronchiectasis.

Obstructive sleep apnoea syndrome

Patients with OSA do not need to shield (unless they have other comorbidities that they need shielded for: please check with the respective GP). Advice on when to continue or stop continuous positive airway pressure (CPAP) therapy can be found on the BTS COVID hub.

Patients on active lung transplant list or previous recipients of lung transplant.

Rescue pack medication

There has been a lot of interest in providing patients with airways disease with rescue packs of steroids and/or antibiotics.

Provision of steroid tablets to every patient with COPD will be a significant burden on pharmacy supplies.

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Options for COPD patients are:

- Ensure those patients who usually have at home supplies of rescue medications have them topped up.
- Discuss the provision of rescue pack medication with patients who are on long-term oxygen therapy, and/or a palliative care list.
- Send all patients on COPD registers an advice letter on what to do if they develop symptoms of COVID-19 or a COPD exacerbation.
- Consider sending a pharmacy script to patients for a prednisolone 5 day course, following a telephone consultation.
- Identify patients at high risk of exacerbation and issue a rescue pack.

Patients who require a short course of steroids for an acute asthma exacerbation should make contact with a healthcare professional for an assessment of severity, and appropriate therapy, which may be best delivered in secondary care. We therefore **do not** recommend the provision of rescue packs of steroids for patients with asthma **unless** they have them usually, for clearly stated indications (such as what is sometimes termed “brittle asthma” in patients who live remotely). Patients should however be advised to ensure that they have an up-to-date Personalised Asthma Action Plan.

Resources for patients

NHS Inform

<https://www.nhsinform.scot/illnesses-and-conditions/infections-and-poisoning/coronavirus-covid-19/coronavirus-covid-19-shielding>

Scottish Government

<https://www.gov.scot/publications/covid-shielding/pages/how-to-shield/>

PHE

<https://www.gov.uk/government/publications/guidance-on-shielding-and-protecting-extremely-vulnerable-persons-from-covid-19/guidance-on-shielding-and-protecting-extremely-vulnerable-persons-from-covid-19>