Scottish Government
Riaghaltas na h-Alba
gov.scot

COVID-19

Clinical Advice

Emergency department management of suspected COVID-19 in adults

Version 1.0
21 April 2021

Summary of revisions

Date	Version	Revisions
21/04/2021	1.0	This document is the update of guidance on hospital admission and management originally published within Scottish Government's COVID-19 Clinical Advice document. The main revisions are as follows: **Section 5:** removal of detail on swab/testing procedures, as local pathways should be followed. **Section 5:** addition of information on fluids and steroids to reflect the latest evidence. **Section 5, Figure 1:** removal of Clinical Frailty Scale. This is not appropriate in the context of emergency department management and should be considered as part of a wider treatment escalation and limitation plan.

Content

1 Purpose of this guidance

This guidance is intended to support delivery of care in emergency departments in NHSScotland during this COVID-19 pandemic. This guidance has two primary objectives:

- to provide a standard for the care provided by emergency departments in the case of suspected or proven COVID-19 illness in adults, and
- to ensure patients spend the minimum appropriate time within the emergency department setting.

This guidance describes the essential components of care required for the majority of patients attending with this condition, but does not detract from the importance of clinical judgement in individual cases. Similarly, the emphasis is on following local guidance and pathways where these exist.

This guidance will be reviewed as new evidence and experience emerges. Healthcare professionals should ensure that they refer to the most up-to-date version of this guidance, which is available on the SIGN website.

2 Who is covered by this guidance?

Adults, including pregnant women, in the emergency department with suspected COVID-19.

3 Who is not covered by this guidance?

Children and young people are not covered by this guidance. Hospital management and admission for other conditions are also not considered.

4 Context

The majority of patients with COVID-19 will be able to be cared for at home. However, patients with suspected or confirmed COVID-19 may require care in the emergency department either for management of respiratory failure due to infection or because of another illness.

5 Clinical investigation and management

The common clinical features of COVID-19 include:

- fever (temperature greater than 37.8°C)
- new continuous cough
- shortness of breath or myalgia, or
- loss of or change in sense of taste or smell (anosmia).

A small proportion of patients may present with gastrointestinal symptoms.

Clinicians should be alert to the possibility of atypical presentations of COVID-19, especially in patients who are immunocompromised. Refer to the Health Protection Scotland website for the most current guidance on management of patients with possible/confirmed COVID-19 presenting to secondary care.

Clinicians must also remain alert to patients with acute medical problems that are not COVID-19, but whose presentation might be confused with this infection. This could lead to inappropriate management and deny patients the best standard of care.

5.1 Investigations

Investigations may demonstrate bilateral infiltrates on chest X-ray[1] or lymphopenia on full blood count. Biomarkers of severe infection that might indicate a worse prognosis are under investigation but no such marker is available at this time. It is important to note that troponins are commonly elevated in patients with COVID-19, but in the absence of typical chest pain and electrocardiogram (ECG) changes on their own they are not an indication of an acute coronary event in this context.

5.2 Management

Fluid resuscitation may worsen oxygenation. Intravenous (IV) fluids should be given only for immediate treatment of hypotension or dehydration, with the aim of achieving and maintaining optimal fluid status.[2,3]

Systemic corticosteroids, including dexamethasone and hydrocortisone, have been found to reduce mortality in patients with severe or critical COVID-19.[4] Dexamethasone therapy should be considered only in patients receiving oxygen or requiring ventilatory support (see also the qualifying criteria suggested by NICE[5]), in accordance with local guidance. Other agents (such as tocilizumab or monoclonal antibodies) can be added, also following local protocols. Steroid therapy should be considered in patients already on steroids, for example for asthma or chronic obstructive pulmonary disease. For patients taking steroid replacement therapy, the dose should be increased appropriately.

Patients may require management with supplemental oxygen. Antibiotics are not usually required unless there is evidence of a secondary bacterial infection.[6] Focal chest X-ray changes, neutrophilia or persistent fever may be signs of this and, if suspected, appropriate samples should be sent for culture.

Specialty teams should discuss treatment escalation and limitation plans (TELPs) with patients, and those whom patients choose to involve, at the earliest opportunity in case of an unexpected deterioration. This should include treatment plans for patients who would not wish for or benefit from critical care admission and, where this is appropriate, documenting do not attempt cardiopulmonary resuscitation (DNACPR) decisions.

At the earliest opportunity, a TELP should be put in place to establish the appropriate future pathway of care, including whether referral to critical care will be beneficial. This should be recorded in the patient's medical record. All patients should have National Early Warning Score 2 (NEWS2) observations regularly documented. If patients who are for full escalation are deteriorating, then early referral to critical care should be made. Use of continuous positive airway pressure (CPAP) in a ward setting should be initiated only after discussion with critical care staff or a senior doctor.[7]

Refer to the National Infection Prevention and Control Manual (section 5.3.9) for the most up-to-date and detailed information on the discontinuation of COVID-19 infection prevention and control measures for inpatients, and the discharge of patients with COVID-19 from hospital settings.

For detailed patient transport guidance see Appendix 1 of COVID-19: guidance for secondary care.

Leaflets for adults, children and pregnant women with possible or confirmed COVID-19 on their discharge from hospital can be found here.

Figure 1: Summary of emergency department management of adults with suspected COVID-19

IDENTIFY	**Common symptoms:** • Fever, new persistent cough, loss of smell and/or taste, dyspnoea, features of pneumonia[a] • Gastrointestinal symptoms (including anorexia, nausea, vomiting, diarrhoea, abdominal pain) • Non-specific presentations are common in the elderly • Always consider potential alternative diagnoses
OBSERVE	• Check temperature, pulse, blood pressure, respiratory rate (RR), oxygen saturation (SpO_2). • Continue observations during emergency department stay. • Use NEWS2 chart (standard 'trigger' scores may not be applicable) or MEWS chart for pregnant women.
INVESTIGATE	• Chest X-ray, full blood count and differential white cell count, urea and electrolytes (U&Es), C-reactive protein, ambulatory SpO_2 if borderline (may unmask exertional hypoxia) • Test for COVID-19 (throat/nose swab, PCR or lateral flow) as per local admission pathways.
IMMEDIATE MANAGEMENT	• **Give O_2 via nasal cannula/mask.** • **Use SpO_2 and RR to guide O_2 therapy.** **Aim for SpO_2 ≥94% and RR ≤20/min (88–92%** if history of type II respiratory failure)[8] **In pregnancy: aim for SpO_2 ≥94%, RR <20/min and contact obstetrics for multidisciplinary team management[9]** • Arterial blood gases/arterial lines are not indicated routinely.[b] • Give IV fluids only for immediate treatment of hypotension or dehydration. **Aim for euvolaemia[c]**

continues on page 5

continued from page 4

FURTHER CARE

- If poor response to standard O_2 therapy (**SpO_2 ≤94% or ≤88–92% if type II respiratory failure**[8]), consult critical care to determine need for early respiratory interventions.
- Use standard vasopressor therapy, such as norepinephrine, if required.
- Antibiotic therapy only if evidence of bacterial infection.
- Consider dexamethasone therapy only in patients receiving oxygen or requiring ventilatory support, in accordance with local guidance. Add other agents (such as tocilizumab or monoclonal antibodies) in line with local protocols.[d]
- Consider thromboprophylaxis[10] for patients being admitted (as per local guidelines).
- Consider if the patient has an anticipatory care plan.[11]
- Consider completion of treatment escalation plan (as per local guidelines).

For patients with pre-existing advanced illness

- Does the patient have an anticipatory care plan and/or are they for end-of-life care?[11,12]

DESTINATION

ADMIT

as per local guidelines

DISCHARGE

Patients suitable for discharge should normally have:

- mild symptoms, and
- no/minimal chest X-ray changes, SpO_2 ≥94% and RR ≤24/min on air.

Ensure written discharge advice is given[13]

Notes:

a Fever is usually >37.8ºC but is **not** invariably present. Other respiratory symptoms such as sore throat, hoarseness or nasal discharge may be present. Non-specific 'viral' symptoms are often present, such as lethargy, headache, malaise, myalgia or arthralgia.

b Provided SpO_2 readings are considered representative of respiratory status – type II respiratory failure patients are likely to be an exception.

c Prone positioning may assist.

d Continue steroid therapy in patients already on steroids, for example for asthma or chronic obstructive pulmonary disease. For patients taking steroid replacement therapy give an appropriately increased dose.

6 Authors

Dr John Harden, Deputy National Clinical Director, Scottish Government, and Emergency Medicine Consultant, NHS Lanarkshire

Professor Colin Robertson, Professor in Accident and Emergency Medicine and Surgery, University of Edinburgh

7 References

1. British Society of Thoracic Imaging. BSTI NHSE COVID-19 radiology decision support tool. 2020. [cited 3 March 2021]. Available from URL: https://www.bsti.org.uk/standards-clinical-guidelines/clinical-guidelines/bsti-nhse-covid-19-radiology-decision-support-tool

2. National Institute for Health and Care Excellence. Clinical guide for the management of emergency department patients during the coronavirus pandemic. November 2020. [cited 3 March 2021]. Available from URL: https://www.nice.org.uk/Media/Default/About/COVID-19/Specialty-guides/management-emergency-department.pdf

3. National Institute for Health and Care Excellence. COVID-19 rapid guideline: managing COVID-19. 25 March 2021 [cited 1 April 2021]. Available from URL: https://www.nice.org.uk/guidance/ng191/chapter/Recommendations/

4. World Health Organization. Corticosteroids for COVID-19. 2 September 2020. [cited 3 March 2021]. Available from URL: https://apps.who.int/iris/bitstream/handle/10665/334125/who-2019-ncov-corticosteroids-2020.1-eng.pdf?sequence=1&isallowed=y

5. National Institute for Health and Care Excellence. COVID-19 prescribing briefing: corticosteroids. February 2021. [cited 1 April 2021]. Available from URL: https://www.nice.org.uk/guidance/ng191/resources/covid19-prescribing-briefing-corticosteroids-pdf-9071983117

6. Healthcare Improvement Scotland, Scottish Antimicrobial Prescribing Group. Updated advice to antimicrobial management teams (AMTs) on antibiotic management/antimicrobial stewardship in the context of the COVID-19 pandemic. 24 March 2020. [cited 3 March 2021]. Available from URL: https://www.sapg.scot/media/5164/20200323-sapg-updated-advice-covid-19-hospital.pdf

7. Scottish Intercollegiate Guidelines Network/Scottish Government. COVID-19 position statement: CPAP for COVID-19-related respiratory failure. 9 September 2020. [cited 1 April 2021]. Available from URL: https://www.sign.ac.uk/media/1757/sg_cpap_guidance_version_2.pdf

8. British Thoracic Society/Intensive Care Society. BTS/ICS guidance: respiratory care in patients with acute hypoxaemic respiratory failure associated with COVID-19. 19 January 2021. [cited 3 March 2021]. Available from URL: https://www.brit-thoracic.org.uk/covid-19/covid-19-information-for-the-respiratory-community/

9. Scottish Government. COVID-19 clinical advice: maternity care. 4 February 2021 [cited 3 March 2021]. Available from URL: https://www.sign.ac.uk/media/1821/nesd1442-sg-clinical-advice-obstetrics_v11.pdf

10. Scottish Intercollegiate Guidelines Network. COVID-19 position statement: The prevention and management of thromboembolism in hospitalised patients with COVID-19 related disease. 20 July 2020. [cited 3 March 2021]. Available from URL: https://www.sign.ac.uk/media/1691/sg_prevention_of_thromboembolism_in_hospitalised_patients.pdf

11. Healthcare Improvement Scotland, Living Well in Communities. Anticipatory care planning for COVID-19. 6 May 2020. [cited 3 March 2021]. Available from URL: https://ihub.scot/acp-covid-19

12. Scottish Palliative Care Guidelines. End of life care guidance when a person is imminently dying from COVID-19 lung disease. 2 March 2021. [cited 3 March 2021]. Available from URL: https://www.palliativecareguidelines.scot.nhs.uk/guidelines/symptom-control/end-of-life-care-guidance-when-a-person-is-imminently-dying-from-covid-19-lung-disease.aspx

13. NHS Inform. Coronavirus (COVID-19): self-care advice – hospital discharge information. 10 February 2021. [cited 3 March 2021]. Available from URL: https://www.nhsinform.scot/illnesses-and-conditions/infections-and-poisoning/coronavirus-covid-19/caring-for-a-cough-or-fever/coronavirus-covid-19-self-care-advice#hospital-discharge-information