

Assessing/managing COVID-19: 1. Triage

Written 1/4/2020



GEMS

Guidelines & Evidence Made Simple

Red Whale

We have drawn this GEMS together based on the NHSE SOPs for primary care, NHS London Primary Care and Community Resource Pack (accessed 1/4/2020), BTS guidance, NICE pneumonia/COVID rapid guideline and pragmatism to fill any gaps. The situation is rapidly changing.

This document can act as a starting point but is not a guideline!

Use your clinical judgement at all times, and be mindful of compassion fatigue when overworked, hungry or tired – look after yourself as well as your patients.

The GMC has made it clear that professionals may need to deviate from established procedures, and that context will be taken into account if concerns are raised about a registered professional.

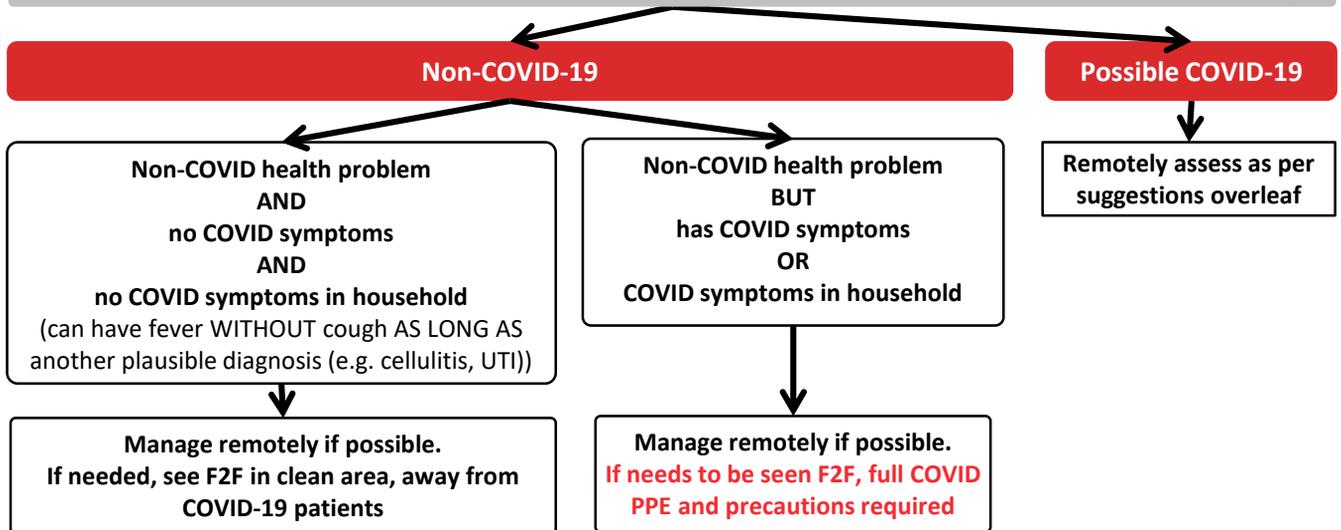
REMOTE ASSESSMENT FIRST – for every primary care contact

See patients F2F only if examination is likely to add value and the benefits outweigh risks of transmission.

COVID-19 typically presents with:

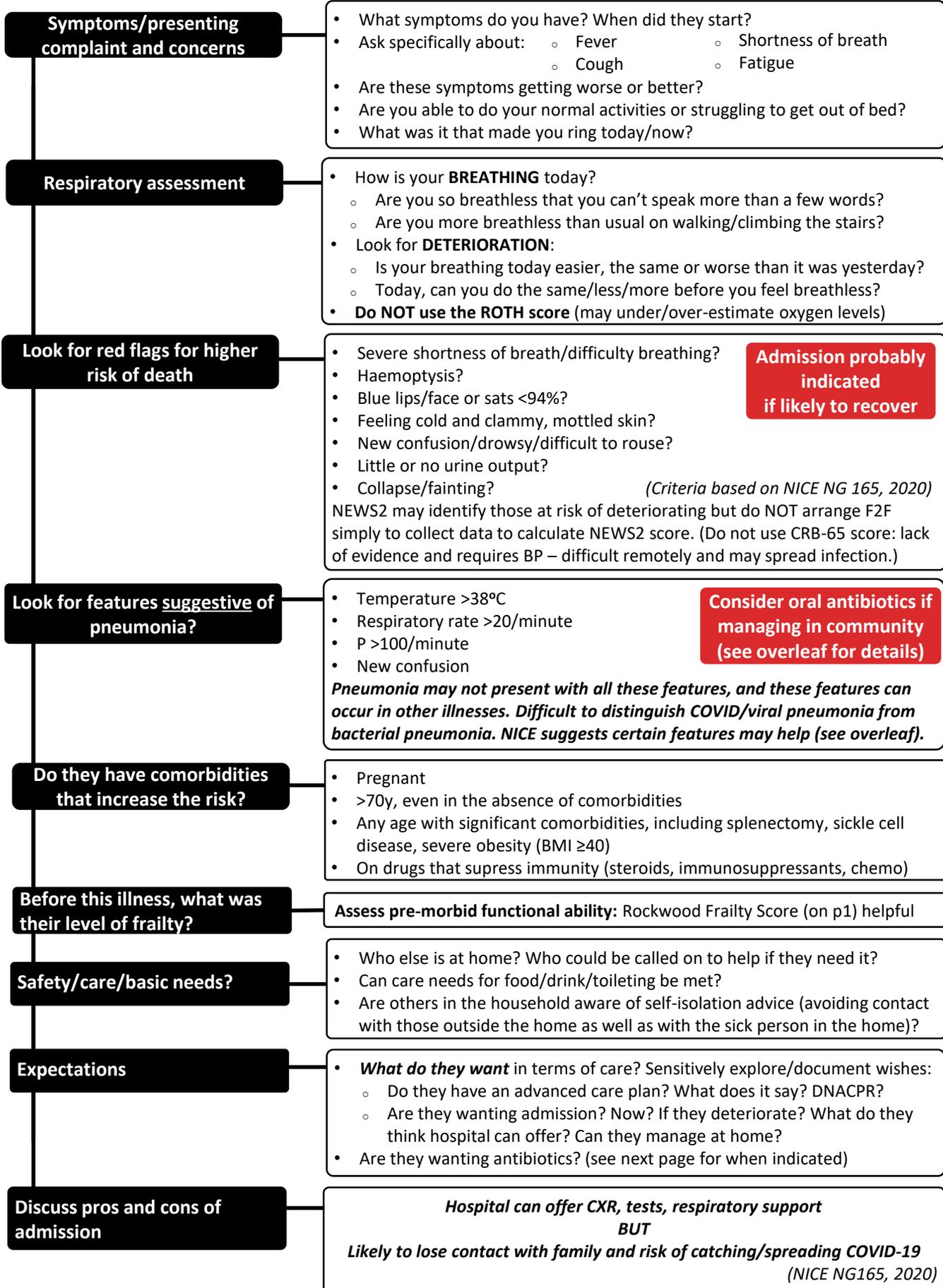
- **Fever ($\geq 37.8^{\circ}\text{C}$) and/or a dry and persistent cough.** In a Chinese cohort, AT PRESENTATION only 34% had sputum, 20% had dyspnoea, 15% had myalgia, 14% had headache and about 5% had GI symptoms (NEJM 2020, DOI: 10.1056/NEJMoa2002032). Anosmia/loss of taste reported. Day 5 and week 2 deterioration are being reported.
- **Remember: ALL THE OTHER CAUSES OF RESPIRATORY PATHOLOGY WILL STILL HAPPEN.** Other patterns of productive cough, dyspnoea without cough/fever, diurnal variation and wheeze should make us consider other diagnoses. Bacterial pneumonia typically has a different clinical picture from COVID-related viral pneumonia (see section 3). Coryza or allergic symptoms make COVID *less* likely but not impossible.
- **Think carefully about children: risk of missing COVID/not protecting self:** only 40–50% present with fever/cough, URTI symptoms more common, and most have a mild course of COVID-19; **AND risk of missing other pathology:** could this be sepsis, croup, bronchiolitis, bacterial pneumonia, etc...?

Initial screen should identify whether COVID/non-COVID problem, and this should be managed accordingly



CONSIDER FRAILTY: Rockwood Clinical Frailty Score (NICE states to use only as PART of a holistic assessment and not to use in learning disability. Score under 5 = likely to benefit from critical care. Score 5 or more = uncertainty around benefits of critical care admission (but little COVID-19-specific data) – take into account the whole picture.

<i>Gives indication of functional ability prior to this illness. Higher scores are less likely to have positive outcome.</i>	1. Very fit: among the fittest for the age, exercise regularly.	2. Well: no active disease symptoms but not as fit as group 1.	3. Managing well: medical problems well controlled. Walks but not regularly active beyond this.	4. Vulnerable: not dependent on others for daily help, symptoms might limit activities.
	5. Mildly frail: typically needs help with some indoor activities (meal prep, housework) and for many activities outside (walking, shopping).	6. Moderately frail: typically needs help with all activities around home (meal prep, housework, bathing), may need some help dressing.	7. Severely frail: completely dependent but stable and may not die in next 6m.	8. Very severely frail: completely dependent and approaching the end of life.



Symptoms/presenting complaint and concerns

- What symptoms do you have? When did they start?
- Ask specifically about:
 - Fever
 - Cough
 - Shortness of breath
 - Fatigue
- Are these symptoms getting worse or better?
- Are you able to do your normal activities or struggling to get out of bed?
- What was it that made you ring today/now?

Respiratory assessment

- How is your **BREATHING** today?
 - Are you so breathless that you can't speak more than a few words?
 - Are you more breathless than usual on walking/climbing the stairs?
- Look for **DETERIORATION**:
 - Is your breathing today easier, the same or worse than it was yesterday?
 - Today, can you do the same/less/more before you feel breathless?
- **Do NOT use the ROTH score** (may under/over-estimate oxygen levels)

Look for red flags for higher risk of death

- Severe shortness of breath/difficulty breathing?
 - Haemoptysis?
 - Blue lips/face or sats <94%?
 - Feeling cold and clammy, mottled skin?
 - New confusion/drowsy/difficult to rouse?
 - Little or no urine output?
 - Collapse/fainting? *(Criteria based on NICE NG 165, 2020)*
- NEWS2 may identify those at risk of deteriorating but do NOT arrange F2F simply to collect data to calculate NEWS2 score. (Do not use CRB-65 score: lack of evidence and requires BP – difficult remotely and may spread infection.)

Admission probably indicated if likely to recover

Look for features suggestive of pneumonia?

- Temperature >38°C
 - Respiratory rate >20/minute
 - P >100/minute
 - New confusion
- Pneumonia may not present with all these features, and these features can occur in other illnesses. Difficult to distinguish COVID/viral pneumonia from bacterial pneumonia. NICE suggests certain features may help (see overleaf).*

Consider oral antibiotics if managing in community (see overleaf for details)

Do they have comorbidities that increase the risk?

- Pregnant
- >70y, even in the absence of comorbidities
- Any age with significant comorbidities, including splenectomy, sickle cell disease, severe obesity (BMI ≥40)
- On drugs that suppress immunity (steroids, immunosuppressants, chemo)

Before this illness, what was their level of frailty?

Assess pre-morbid functional ability: Rockwood Frailty Score (on p1) helpful

Safety/care/basic needs?

- Who else is at home? Who could be called on to help if they need it?
- Can care needs for food/drink/toileting be met?
- Are others in the household aware of self-isolation advice (avoiding contact with those outside the home as well as with the sick person in the home)?

Expectations

- **What do they want** in terms of care? Sensitively explore/document wishes:
 - Do they have an advanced care plan? What does it say? DNACPR?
 - Are they wanting admission? Now? If they deteriorate? What do they think hospital can offer? Can they manage at home?
- Are they wanting antibiotics? (see next page for when indicated)

Discuss pros and cons of admission

Hospital can offer CXR, tests, respiratory support
BUT
Likely to lose contact with family and risk of catching/spreading COVID-19
(NICE NG165, 2020)

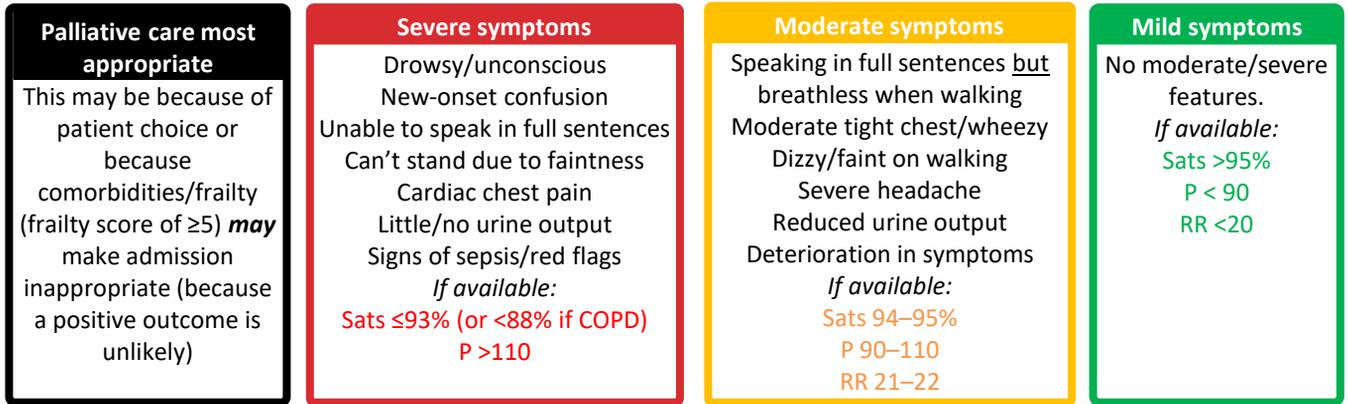


Severity classification based on remote assessment (includes some observations in case these are available)

For all these scenarios, F2F assessment should only be done if **ABSOLUTELY ESSENTIAL**. Ask yourself:

- What is F2F assessment going to add?
- Why can't this be done by phone/video?

If essential: see at home/'COVID' base without exposing other patients to them. Wear appropriate PPE. To minimise risk to clinician: **FULL HISTORY TO BE TAKEN BEFORE VISIT** and **ONLY EXAMINATION ELEMENT** is done F2F.



Comorbidity, frailty, patient preference

Underlying lung disease? See overleaf

Decline admission (now/in care plan)

No advance care plan and would like admission

Stay at home advice (them + household)
Self-care advice
Safety-net

- Conversation around whether admission appropriate; record decision/DNACPR
- Initiate palliative care
- Telephone/video care preferable, F2F if absolutely necessary

999 admission
Tell call handler: likely COVID-19

DECIDE IF SUITABLE FOR HOME MANAGEMENT/NEEDS ADMISSION

Do NOT offer antibiotics if:

Symptoms mild AND COVID likely to be the cause
Antibiotics are NOT recommended as prophylaxis in those without these symptoms (inappropriate use risks shortage for those in need)

Offer antibiotics if (NICE NG 165, 2020):

- Likely bacterial pneumonia
- More severe symptoms and unclear if viral/bacterial pneumonia
- High risk of complications because of pre-existing comorbidity or immunosuppression or significant heart/lung disease

Doxycycline, 200mg on D1 then 100mg for 4d (total course 5d)

or

Amoxicillin 500mg tds for 5d

Use steroids only if indicated to manage another disease (e.g. COPD)

If suitable for home management, London guidance suggests:

- **Bronchodilator?** (4–8 puffs salbutamol through spacer) – can be trialled if available at home. **DO NOT SHARE!**
- **Follow-up:** within $< 24h$ and then every 12–24h until well
- **Safety-net well, including patient to call 999 if deteriorates** (and tell call handler likely COVID-19)

Features suggestive of pneumonia (NICE):

T $> 38.0C$ RR $> 20/min$ P > 100 New confusion

Differentiating viral from bacterial pneumonia is difficult. NICE suggests the following (NG165):

Features suggestive of bacterial pneumonia:

- Doesn't have typical COVID-19 symptoms
- Deteriorates rapidly after only a few days of symptoms
- Pleuritic chest pain
- Purulent sputum

Features suggestive of viral/COVID pneumonia:

- Present after 1w of COVID symptoms
- Severe muscle aches
- Anosmia
- Breathlessness without pleuritic pain
- May have history of contact with COVID

Managing respiratory disease during COVID-19

Based on NHS London Primary Care and Community Respiratory Resource Pack (correct on 30/3/2020), BTS guidance and the Primary Care Respiratory Society, written 30/3/2020



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Asthma

Background and maintenance treatment:

- Most asthmatics have mild–moderate disease with normal lungs when well controlled.
- No changes in maintenance therapy are required when well – no evidence of increased risk from ICS; biologics used in asthma therapy have not been shown to be immunosuppressant and should be continued.
- Given current pressures on health services, provision of a rescue pack for patients with a good understanding of their personalised asthma action plan may be sensible (BTS). Issue a peak flow meter so they can monitor at home. Rescue packs should be issued as acute and SHOULD NOT be on repeat. Each exacerbation requires review.
- Acute exacerbations of asthma should be treated in the normal way, including oral steroids (www.GPCPD.com).

Acute asthma vs. COVID-19

Differentiating an acute exacerbation of asthma from COVID-19 may be difficult. Pragmatically, fever and change of taste/smell are unusual in asthma. Decide (as best you can) which is more likely. If COVID-19 suspected, remember:

- Oral steroids are NOT a treatment for COVID-19. *In practice, this means that if an asthmatic has mild COVID symptoms but with no significant asthma symptoms, we **should not** give prophylactic oral steroids.*
- However, if typical asthma exacerbation features are dominant (wheeze/bronchospasm), **oral steroids should be used** as per asthma guidelines, but for the shortest duration possible (until symptoms have improved).
- For those on *maintenance oral steroids* – follow sick day rules if unwell (BTS suggests that usually this would mean taking twice as much oral steroid while ill).

COPD

BTS guidance suggests:

- There is NO evidence for ‘just in case antibiotics’ OR using prophylactic antibiotics.
- Treat apparent exacerbations as you normally would, irrespective of possible organism, which means:
 - **Use antibiotics** if suspected bacterial infective exacerbations (more sputum/change in sputum colour).
 - **Consider oral steroids** for increased breathlessness: but first check that symptoms can’t be managed with increasing bronchodilators, breathing exercises, pacing. Have a lower threshold to use steroids in those with asthma–COPD overlap or previous raised eosinophils as they are likely to get greater benefits. Do not use if patient has a fever. If using, offer 30mg prednisolone for 5 days.
- Remember, anxiety can also drive breathlessness/tachycardia: a phone/video consultation can help reassure people.
- If oxygen sats are available, a significant change from baseline is:
 - Mild: <2% below baseline
 - Moderate: 3–4% below baseline sats
 - Severe: ≥5% below baseline sats
- If on LTOT, consider admission if sats <88% (on their usual oxygen flow) if admission likely to be helpful.

Bronchiectasis

- Treat suspected COVID-19 in line with all other patients.
- For non-COVID exacerbations (may be hard to tell, but fever is present in COVID and may be less common in non-COVID exacerbations, whereas sputum production shows marked increase in non-COVID exacerbations):
 - Usually, routine collection of sputum is recommended in exacerbations. This is NOT recommended at present.
 - Treat a ‘usual’ exacerbation with standard antibiotics (usually 7–14d of doxycycline or amoxicillin). If no response, try empirical ciprofloxacin/levofloxacin and obtain specialist advice.
- See www.GPCPD.com: Respiratory chapter>Bronchiectasis article for more on antibiotics/management.

Interstitial lung disease

- Many have established pulmonary fibrosis and will not do well with intubation/mechanical ventilation. If possible, discuss ceiling of care and advance care planning.
- Likely to become hypoxic very quickly and will not have much reserve.
- Do not stop long-term prednisolone: consider increasing baseline doses in illness, as per sick day rules.

Obstructive sleep apnoea

- Most of these patients have NORMAL lungs and should not be considered to have pre-existing lung disease.
- CPAP is used to correct daytime sleepiness. Obstructive sleep apnoea doesn’t affect their gas exchange.
- If admitted: remind them to take their CPAP machine with them.

We make every effort to ensure the information in these pages is accurate and correct at the date of publication, but it is of necessity of a brief and general nature. The information presented herein should not replace your own good clinical judgement, or be regarded as a substitute for taking professional advice in appropriate circumstances. In particular, we suggest you carefully consider the specific facts, circumstances and medical history of any patient, and recommendations of the relevant regulatory authorities. We also suggest that you check drug doses, potential side-effects and interactions with the British National Formulary. Save insofar as any such liability cannot be excluded at law, we do not accept any liability for loss of any type caused by reliance on the information in these pages. March 30 2020 For full references see the relevant Red Whale articles.