This pathway was created for GPs during uncertain times using clinical judgement and is currently not evidence based. HR, RR & O2 satls are taken from sepsis and NEWS2 score – these may or may not be sensitive for Covid-19.

**Guidance:**
- INITIAL ASSESSMENT SHOULD ALWAYS BE VIRTUAL BY TELEPHONE, VIDEO OR ONLINE CONSULTATION
- UNNECESSARY F2F ASSESSMENTS SHOULD BE AVOIDED
- CLINICAL NECESSITY OF F2F APPOINTMENT TO BE AGREED BY TWO GPs (OR ONE SENIOR GP) INCLUDING THE GP WHO WILL SEE THE PATIENT
- HOME VISITING SHOULD BE BY EXCEPTION AND FOR HOUSEBOUND PATIENTS ONLY. USE CLINICAL JUDGEMENT TO MINIMISE EXPOSURE TO VIRAL LOAD
- ADEQUATE AND PROPERLY FITTED PPE SHOULD BE WORN FOR ALL F2F APPOINTMENTS
- F2F TIME SHOULD BE MINIMAL AND FOR PURPOSES OF EXAMINATION ONLY

(HISTORY WILL HAVE BEEN TAKEN REMOTELY. NOTES SHOULD BE WRITTEN UP AWAY FROM THE PATIENT.)

**Leeds Breathlessness Pathway (Covid-19)**

**Telephone Triage - Patient with Suspected Covid19**

- **Category 3**
  - Mild symptoms: stay at home, self-care advice, contact NHS 111 if urgent health needs (whether related to COVID-19 or another health issue).

- **Category 2**
  - Moderate symptoms: needs further assessment by GP Primary Care Service (in-hours) or LCD or O2 (out of hours).

- **Category 1**
  - Severely unwell: Need to admit patient to hospital. Call ambulance and inform call handler of COVID-19 risk.

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**Version 4.0 created 15/04/20**

**Review Date 30/04/20**

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**Supporting Evidence:**
COVID-19 Rapid Guidelines from NICE:
Managing suspected or confirmed pneumonia in adults: https://www.nice.org.uk/guidance/ng165
Managing symptoms (including at the end of life) in the community: https://www.nice.org.uk/guidance/ng163
Leeds Health Pathways on suspected pneumonia during COVID-19 (SEE PAGE 3)

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Further advice on remote assessment in Covid-19 has been collated by the BMJ.
Click here to access https://www.bmj.com/content/368/bmj.m1182
Covid-19: remote consultations
A quick guide to assessing patients by video or voice call

This graphic, intended for use in a primary care setting, is based on data available in March 2020, much of which is from hospital settings in China. It will be revised as more relevant data emerges.

1 Set up
Prepare yourself and decide how to connect
- Have current ‘stay at home’ covid-19 guidance on hand
- Video is useful for
  - Severe illness
  - Anxious patients
  - Comorbidities
  - Hard of hearing
- Scan medical record for risk factors such as:
  - Diabetes
  - Pregnancy
  - Smoking
  - Chronic kidney or liver disease
  - COPD
  - Steroids or other immunosuppressants
  - Cardiovascular disease
  - Asthma

2 Connect
Make video link if possible, otherwise call on the phone
- Check video and audio
- Confirm the patient’s identity
- Note patient’s phone number in case connection fails
- If possible, ensure the patient has privacy
- Where are you right now?
- Name
- Date of birth

3 Get started
Quickly assess whether sick or less sick
- Rapid assessment
  - If they sound or look very sick, such as too breathless to talk, go direct to key clinical questions
  - Establish what the patient wants out of the consultation, such as:
    - Clinical assessment
    - Reassurance
    - Advice on self isolation

4 History
Adapt questions to patient’s own medical history
- Contacts
  - Close contact with known covid-19 case
  - Immediate family member unwell
  - Occupational risk group
- History of current illness
  - Date of first symptoms

5 Examination
Assess physical and mental function as best as you can
- Over phone, ask carer or patient to describe:
  - State of breathing
  - Colour of face and lips
- Over video, look for:
  - General demeanour
  - Skin colour
- Check respiratory function - inability to talk in full sentences is common in severe illness
  - How is your breathing?
  - Is it worse today than yesterday?
  - What does your breathlessness prevent you doing?
- Temperature
- Pulse
- Peak Flow
- Blood pressure
- Oxygen saturation
- Patient may be able to take their own measurements if they have instruments at home

6 Decision and action
Advise and arrange follow-up, taking account of local capacity
- Likely covid-19 but well, with mild symptoms
- Self management: fluids, paracetamol
- Likely covid-19, unwell, deteriorating
- Arrange follow up by video. Monitor closely if you suspect pneumonia
- Relevant comorbidities
- Proactive, whole patient care
- Unwell and needs admission
- Ambulance protocol (999)
- Reduce spread of virus - follow current government ‘stay at home’ advice
- Safety netting
  - If living alone, someone to check on them
  - Maintain fluid intake - 6 to 8 glasses per day
  - Seek immediate medical help for red flag symptoms

Clinical characteristics
Based on 1099 hospitalised patients in Wuhan, China

- Cough 69%
- Temperature 37.5-38°C 22%
- Temperature >38°C 22%
- Fatigue 38%
- Sputum 34%
- Shortness of breath 19%
- Muscle aches 15%
- Sore throat 14%
- Headache 14%
- Chills 12%
- Nasal congestion 5%
- Nausea or vomiting 5%
- Diarrhoea 4%
- Any comorbidity 24%

Red flags
- Covid-19:
  - Severe shortness of breath at rest
  - Difficulty breathing
  - Pain or pressure in the chest
  - Cold, clammy, or pale and mottled skin
  - New confusion
  - Becoming difficult to arouse
  - Blue lips or face
  - Little or no urine output
  - Coughing up blood

Other conditions, such as:
- Neck stiffness
- Non-blanching rash

* Breaths per minute  † Beats per minute  ‡ If oximetry available for self monitoring

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Leeds Health Pathways Guidance on

Suspected or confirmed pneumonia in primary care during COVID–19 pandemic

Do not offer an antibiotic for treatment or prevention of pneumonia if:

- COVID–19 is likely to be the cause and
- symptoms are mild.

Inappropriate antibiotic use may reduce availability if used indiscriminately, and broad-spectrum antibiotics in particular may lead to *Clostridioides difficile* infection and antimicrobial resistance.

Offer an oral antibiotic for treatment of pneumonia in people who can or wish to be treated in the community if:

- the likely cause is bacterial or
- it is unclear whether the cause is bacterial or viral and symptoms are more concerning or
- they are at high risk of complications because, for example, they are older or frail, or have a pre-existing comorbidity such as immunosuppression or significant heart or lung disease (for example bronchiectasis or COPD), or have a history of severe illness following previous lung infection.

*Choice of antibiotic: adults aged 18 years and over*

<table>
<thead>
<tr>
<th>Antibiotic</th>
<th>Dosage and course length</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First choice oral antibiotic</strong></td>
<td></td>
</tr>
<tr>
<td>Doxycycline</td>
<td>200 mg on first day, then 100 mg once a day for 4 days (5-day course in total)</td>
</tr>
<tr>
<td><strong>Alternative oral antibiotics</strong></td>
<td></td>
</tr>
<tr>
<td>Amoxicillin</td>
<td>500 mg three times a day (higher doses can be used - see BNF) for 5 days</td>
</tr>
</tbody>
</table>

*See BNF for appropriate use and dosing in specific populations, for example, hepatic impairment, renal impairment, pregnancy and breast-feeding, and administering intravenous (or, where appropriate, intramuscular) antibiotics.

*Oral doses are for immediate-release medicines.

Give oral antibiotics first line if the person can take oral medicines, and the severity of their condition does not require intravenous antibiotics.
For choice of antibiotics in penicillin allergy, pregnancy and more severe disease, or if atypical pathogens are likely, see the recommendations on choice of antibiotic in the NICE antimicrobial prescribing guideline on community-acquired pneumonia.

Differentiating viral COVID-19 pneumonia from bacterial pneumonia

COVID-19 viral pneumonia may be more likely if the patient:

- presents with a history of typical COVID-19 symptoms for about a week
- has severe muscle pain (myalgia)
- has loss of sense of smell (anosmia)
- is breathless but has no pleuritic pain
- has a history of exposure to known or suspected COVID-19, such as a household or workplace contact.

A bacterial cause of pneumonia may be more likely if the patient:

- becomes rapidly unwell after only a few days of symptoms
- does not have a history of typical COVID-19 symptoms
- has pleuritic pain
- has purulent sputum.

When making decisions about hospital admission, take into account:

- the severity of the pneumonia, including symptoms and signs of more severe illness
- the benefits, risks and disadvantages of hospital admission
- the care that can be offered in hospital compared with at home
- the patient's wishes and care plans (see the section on treatment and care planning)
- service delivery issues and local NHS resources during the COVID-19 pandemic.
Explain that:

- the benefits of hospital admission include improved diagnostic tests (chest X-ray, microbiological tests and blood tests) and respiratory support
- the risks and disadvantages of hospital admission include spreading or catching COVID-19 and loss of contact with families.

During the COVID-19 pandemic, face to face examination of patients may not be possible. Advice on how to conduct a remote consultation can be found in BMJ guidance on COVID-19: a remote assessment in primary care, which includes a visual summary for remote consultations.

Where physical examination and other ways of making an objective diagnosis are not possible, the clinical diagnosis of community-acquired pneumonia of any cause in an adult can be informed by other clinical signs or symptoms such as:

- temperature above 38°C
- respiratory rate above 20 breaths per minute
- heart rate above 100 beats per minute
- new confusion

(see the CEBM's rapid diagnosis of community-acquired pneumonia for clinicians).

Assessing shortness of breath (dyspnoea) is important, but may be difficult via remote consultation. Tools such as the Medical Research Council's dyspnoea scale or the CEBM's review of ways of assessing dyspnoea (breathlessness) by telephone or video can be useful.

Although the NICE guideline on pneumonia in adults: diagnosis and management recommends using the CRB65 tool, it has not been validated in people with COVID-19. It also requires blood pressure measurement, which may be difficult or undesirable during the COVID-19 pandemic and risks cross-contamination.

Where pulse oximetry is available use oxygen saturation levels below 92% (below 88% in people with COPD) on room air at rest to identify seriously ill patients. While the ROTH tool has been suggested as an alternative where pulse oximetry is not available, its use has not been validated in people with COVID-19 and there are concerns that it may underestimate illness severity (see the CEBM's rapid review of the use of the Roth score in remote assessment).
Use of the NEWS2 tool in the community for predicting the risk of clinical deterioration may be useful. However, a face-to-face consultation should not be arranged solely to calculate a NEWS2 score.