Specialty guides for patient management during the coronavirus pandemic

Reference guide for emergency medicine

14 April 2020 Version 4

These charts, checklists, tools and care record are collated from NHS England and NHS Improvement publications, for ease of reference in assisting and informing how each trust can respond to the current challenges relating to COVID-19.

They were not created to be comprehensive and local adaptation to reflect local circumstances and increasing understanding of the disease is assumed. They do however provide clear guidance on a cohesive revised approach to:

1. Which patients should/should not be conveyed to hospital?
2. Emergency department approach to streaming during the COVID-19 pandemic
3. Emergency department/AMU patient admission criteria for COVID-19 and non-COVID-19 patients
4. Emergency department documentation for suspected COVID-19 patients
5. Radiology guidelines for COVID-19 patients
6. Same-day emergency care ‘must do/priorities’
7. Discharge of inpatients – reasons to reside in an acute hospital bed
Front door parallel streams

Front door
- Attend ED
- Non-respiratory illness
  - Respiratory illness
    - Seriously ill (Sat < 94% (<90% if COPD) and/or NEWS>=3)
    - Not seriously ill (Sat > 94%/90%) & NEWS<3
  - Red flags
    - O2 Rx to keep sat > 94% (90% if COPD) + restrict IV fluids
  - ED assessment
    - Clinical assessment + CXR if clinically indicated
    - Streamed non ED services
- Secondary triage
  - Non-respiratory illness

Binary triage
- Binary triage

Severity assessment
- Severity assessment
  - Seriously ill (Sat < 94% (<90% if COPD) and/or NEWS>=3)
  - Not seriously ill (Sat > 94%/90%) & NEWS<3
  - Red flags
    - ED assessment
      - Clinical assessment + CXR if clinically indicated
      - Streamed non ED services
- Secondary triage
  - Non-respiratory illness

Ix/ Rx
- Ix/ Rx
  - O2 Rx to keep sat > 94% (90% if COPD) + restrict IV fluids
  - CXR +/- CT (See BST1 guideline)
- Secondary triage
  - Non-respiratory illness

Result
- Result
  - CXR - Bilateral changes
  - CXR inconclusive Proceed to CT
  - Clinical assessment + CXR if clinically indicated
  - ED assessment
  - Streamed non ED services
  - Non-CoVID disease
    - Manage accordingly
  - CoVID disease
    - Treated as CoVID probable
  - CoVID disease
    - Treated as Non CoVID disease
    - Advised to return if dyspnoea worsens
- Secondary triage
  - Non-respiratory illness

Action
- Action
  - Treat as CoVID probable
  - Treated as Non CoVID disease
  - Manage accordingly
  - Advised to return if dyspnoea worsens
- Secondary triage
  - Non-respiratory illness

Place
- Place
  - Cohorted with Screen
  - General Ward/HDU
  - Home and self isolate
  - Usual place of residence
- Secondary triage
  - Non-respiratory illness

Reference guide for emergency medicine

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Reason to admit (to an acute hospitals) checklist

Physiology
- NEWS2 $\geq 3$
  - Oxygen therapy
  - Intravenous fluids
  - i.v. medication $> b.d.$
  - Interventional Rx Surgery/ PCI/ IR

Therapy
- Cardiac monitoring
- Urgent endoscopy
- Toxicological sequelae

Function
- Diminished level of consciousness
- Acute impairment neurological / musculoskeletal in excess of home/community care provision
- Last hours of life - all admitted patients must have a TEP

Same-day emergency care should always be considered – admission may be required but is seldom the default option.
ED/AMU coronavirus assessment tool

**Green**
- NEWS2 <3
- Sats ≥ 95%

**Amber**
- NEWS = 3 or 4
- Sats 93% or 94% or desaturates on 40 step test*

**Red**
- Marked dyspnoea
- NEWS ≥ 5 or
- Signs of sepsis
- Sats ≤ 92%

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**Patient Flow**

**Green**
- 40 steps desaturation test*
- No desaturation - home with advice

**Amber**
- Senior review
- Admit or discharge with safety netting on basis of full assessment

**Red**
- Admit for close monitoring
- Rx with O₂
- Rx intercurrent bacterial infection
- May need CPAP/IPPV

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**Important co-morbidities**
- Hypertension
- Diabetes
- Respiratory disease
- Cardiovascular disease

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**Reference guide for emergency medicine**
Emergency department COVID-19 care record

<table>
<thead>
<tr>
<th>Patient name:</th>
<th>Date:</th>
<th>Time of arrival:</th>
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<tbody>
<tr>
<td>Date of Birth</td>
<td></td>
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<tr>
<td>NHS Number</td>
<td></td>
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<table>
<thead>
<tr>
<th>Nursing assessment</th>
<th>Investigations: (tick when done)</th>
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<tbody>
<tr>
<td>Name:</td>
<td>Time:</td>
</tr>
<tr>
<td>Vital signs:</td>
<td>T</td>
</tr>
<tr>
<td>Focused history:</td>
<td>Respiratory</td>
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<tr>
<td>History (Free text)</td>
<td>Onset of symptoms:</td>
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<table>
<thead>
<tr>
<th>Medications</th>
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<tbody>
<tr>
<td>Allergies and Adverse Drug Reactions: List the medications or substances and the nature of the reaction (with N/A if none)</td>
</tr>
<tr>
<td>Drug</td>
</tr>
<tr>
<td>------</td>
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<table>
<thead>
<tr>
<th>Examination</th>
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<tbody>
<tr>
<td>Heart sounds:</td>
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<tr>
<td>GCS E</td>
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<tr>
<td>-------</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Primary Diagnosis</th>
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<tbody>
<tr>
<td>COVID-19</td>
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<tr>
<td>Other (please specify):</td>
</tr>
<tr>
<td>Secondary diagnoses/problems:</td>
</tr>
<tr>
<td>1.</td>
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<tr>
<td>2.</td>
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<td>3.</td>
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<tr>
<td>4.</td>
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<td>5.</td>
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</tbody>
</table>
### Senior Review

**Signed (Name):**

**Grade:**

#### Situation: Likely diagnosis

#### Background:

#### Assessment:

#### Recommendation:

- Palliative treatment
- Oxygen and supportive treatment
- Ventilatory Support (not suitable for escalation)
- Ventilatory Support (consider intubation)
- Intubation and ventilation

#### Core escalation plan (tick all appropriate boxes)

- **Date and time:**
  - DNACPR
  - Highest level of care appropriate
  - Ward
  - HDU
  - ICU

- **Decision made by:**
  - **(Name):**
  - **(Grade):**
  - **(Signed):**

- **Review:**
  - **Date and time:**
  - DNACPR
  - Highest level of care appropriate
  - Ward
  - HDU
  - ICU

- **Decision made by:**
  - **(Name):**
  - **(Grade):**
  - **(Signed):**

- **Respect/Equivalent form completed:**
  - Patient/relatives aware: Yes / No

### Comorbidities

#### Chronic Comorbidity score

- **Score for:**
  - Hypertension
  - Ischemic heart disease
  - Chronic obstructive pulmonary disease
  - Respiratory failure
  - Diabetes
  - Chronic obstructive pulmonary disease
  - Chronic heart failure
  - Chronic liver disease
  - Chronic kidney disease
  - Diabetes
  - Rheumatological disease

### Results

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Drug</th>
<th>Route</th>
<th>Prescriber (sign/name)</th>
<th>Given by</th>
<th>Time</th>
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</table>

### Oxygen prescription

<table>
<thead>
<tr>
<th>Mode</th>
<th>Time</th>
<th>Date</th>
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<th>Time</th>
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### Other

- **ARDS:**
- **Pulmonary embolism:**
- **DVT:**
- **Pneumonia:**
- **Pneumothorax:**
- **Hypokalaemia:**
- **Hyperkalaemia:**
- **Hypocalcaemia:**
- **Hypercalcaemia:**
- **Hypomagnesaemia:**
- **Hypermagnesaemia:**
- **Hypophosphatemia:**
- **Hyperphosphatemia:**
- **Lactic acidosis:**
- **Metabolic acidosis:**
- **Metabolic alkalosis:**
- **Water intoxication:**
- **Water depletion:**
- **Renal failure:**
- **Liver failure:**
- **Carcinoma:**
- **Liver cancer:**
- **Brain tumour:**
- **Ovarian tumour:**
- **Testicular tumour:**
- **Pancreatic cancer:**
- **Lung cancer:**
- **Breast cancer:**
- **Colorectal cancer:**

### Reference guide for emergency medicine
Radiology decision tool for patients with suspected COVID-19

*94% unless known COPD in which case <90%
**Unsuspected/unexpected cases may be incidentally discovered on CXR/CT at this stage; should be reviewed in the context of clinical suspicion as to likelihood of COVID-19.
***Classic and indeterminate CTs should be scored either 'mild' or 'moderate/severe'

*Please upload all COVID 19 cases to BSTI database: https://www.bsti.org.uk/training-and-education/covid-19-bsti-imaging-database/*
# SDEC priorities

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
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</table>
| **Respiratory**| Pneumonia/COPD without oxygen/NIV requirement  
May need initial antibiotics and assessment of response (yet may not require overnight stay)  
Asthmatic PEFR >75% best or predicted PE without physiological compromise |
| **CNS**       | Stroke with residual deficit not affecting ADLs  
TIA  
Cognitively impaired patient with minor head injury (GCS 15) taking oral anticoagulation  
Seizure patient who has recovered |
| **Gastro**    | Haemodynamically stable GI bleed  
Gastroenteritis taking oral fluids with normal/minimally changed U&Es |
| **Cardiovascular** | New non-ventricular dysrhythmia adequately rate controlled  
? ACS without high sensitivity troponin elevation at 6 hours  
Syncope without ECG conduction defect, rhythm disturbance or hypotension |
| **MSK**       | Patients requiring physio/analgesia alone  
Upper limb fracture  
Fracture of the lower limb except femur, tibia, calcaneum  
Dislocation once reduced  
Minor stable vertebral fractures |
| **General surgery** | Renal/biliary colic in whom pain is controlled  
Abdominal pain with normal CT and pain controlled  
Abscess not showing signs of sepsis  
Haematuria without clot retention, hypotension or anaemia |
| **Bacterial infection** | NEWS <3 with clinical decision for oral antibiotic or SDEC IV |
| **Toxicology** | Overdose patients with non-toxic levels or asymptomatic 6-12 hours after ingestion (guided by Tox-base) |
| **Other**     | Patient on end-of-life pathway or for whom ceiling of care does not require hospitalisation |
Reason to reside – a checklist for acute hospital beds

**Physiology**
- NEWS2 ≥ 3

**Therapy**
- Oxygen therapy/NIV
- Intravenous fluids
- IV medication > b.d.

**Recovery**
- Lower limb surgery within 48hrs
- Thorax-abdominal/pelvic surgery with 72 hrs
- An invasive procedure within 24hrs

**Function**
- Diminished level of consciousness
  Where recovery realistic
- Acute impairment
  In excess of home/community care provision
- Last hours of life
  All admitted patients should have a TEP

Every patient on every general ward should be reviewed on a twice daily board round using the checklist above. If the answer to each question is ‘No’, active consideration for discharge to a less acute setting must be made.