Emergency department assessment and management of COVID-19 in adults
Quick reference guide

Presentation
Intended for adult patients presenting to NSW emergency departments with possible COVID-19 infection.

Initial assessment

<table>
<thead>
<tr>
<th>Observations</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturations on room air</td>
<td>≥93% (or at baseline in chronic lung disease)</td>
<td>90–92% (or less than baseline in chronic lung disease)</td>
<td>≤89% (or less than baseline in chronic lung disease)</td>
</tr>
<tr>
<td>Respiratory rate</td>
<td>10–25</td>
<td>8–10 or 26–30</td>
<td>&lt;8 or &gt;30</td>
</tr>
<tr>
<td>Heart rate</td>
<td>50–120</td>
<td>40–50 or 120–140</td>
<td>&lt;40 or &gt;140</td>
</tr>
<tr>
<td>GCS</td>
<td>15</td>
<td>15</td>
<td>≤14</td>
</tr>
</tbody>
</table>

Severity of Illness

- **Mild**
  - Saturations on room air: ≥93%
  - Respiratory rate: 10–25
  - Heart rate: 50–120
  - GCS: 15

- **Moderate**
  - Saturations on room air: 90–92%
  - Respiratory rate: 8–10 or 26–30
  - Heart rate: 40–50 or 120–140
  - GCS: 15

- **Severe**
  - Saturations on room air: ≤89%
  - Respiratory rate: <8 or >30
  - Heart rate: <40 or >140
  - GCS: ≤14

Risk stratification is based on vital signs in conjunction with high risk factors and response to treatment.

High risk factors
- Age ≥65
- Chronic respiratory disease
- Chronic kidney disease
- Chronic cardiovascular disease
- Immunosuppression
- Diabetes
- Cancer.

High probability COVID-19 factors
- Fever
- Dyspnoea
- Fatigue
- Change in smell or taste
- High epidemiological risk.

Investigations

<table>
<thead>
<tr>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
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<tbody>
<tr>
<td>COVID-19 nucleic acid detection swab +/- influenza PCR (use local protocol)</td>
<td>FBC, EUC, INR, D-dimer, troponin</td>
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</tr>
<tr>
<td>Nil</td>
<td>FBC (including lactate and glucose)</td>
<td>VBG (including lactate and glucose)</td>
</tr>
<tr>
<td></td>
<td>LFT, APTT, CRP (if available)</td>
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</tr>
<tr>
<td></td>
<td>Blood culture if febrile ≥38.5°C</td>
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</tr>
<tr>
<td></td>
<td>ECG, chest X-ray</td>
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</tr>
<tr>
<td></td>
<td>POCUS (if available)</td>
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</tr>
</tbody>
</table>

Severe disease has been correlated with:
- Lymphopenia (<1.1 x 10⁹ cells/L)
- Thrombocytopenia (<50 x10⁹ cells/L)
- D-dimer >1.0mg/L
- New acute kidney injury
- Raised ALT/AST
- Raised inflammatory markers (CRP, WCC)
- Raised troponin (late)
- Lactate (VBG) >3.0mmol/L.


Discuss care plans with patient and family

Should there be any limitations to therapy? (Review advance care directive)

YES

NO

Manage according to local protocol


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Agency for Clinical Innovation

NSW Government

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Management and treatment

<table>
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<tbody>
<tr>
<td>Respiratory support</td>
<td>Nil</td>
<td>Respiratory support</td>
<td>NIV as indicated in single room with contact, droplet and airborne precautions. See NSW Health guidance. HDU/ICU referral when more than 10L O₂/min required</td>
</tr>
<tr>
<td>Restrictive fluid strategy</td>
<td>Nil</td>
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<td>250mL boluses up to 3 times if SBP &lt;100mmHg If not responsive then commence vasopressors No maintenance fluids unless specific indication</td>
</tr>
</tbody>
</table>

Additional therapy
- Treat suspected bacterial pneumonia or influenza.
- Use metered dose inhaler (MDI) with spacer. Do not use nebuliser therapy.
- See up-to-date NSW Health information on drug therapies.

For some patients, it may be most appropriate to offer palliative care.

Disposition

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<tr>
<td>Discharge follow-up five days post symptom onset (e.g. COVID-19 service, GP, community care)</td>
<td>Discharge if SpO₂ ≥93% on room air (or at baseline in chronic lung disease) Refer for daily follow-up via local COVID-19 service (e.g. Hospital in the Home (HITH), community care)</td>
<td>HDU/ICU referral if: 10L/min required to maintain SpO₂ ≥93% intubated vasopressor support meets normal referral criteria.</td>
<td></td>
</tr>
</tbody>
</table>

On discharge, provide patient or carer with information on management at home and follow up, including:
- fact sheets
- signs and symptoms for seeking further medical advice.

For more information, contact your public health unit.

This summary was written to reflect current understanding of best practice in assessment and management of COVID-19 in adults.