



Australasian College for Emergency Medicine

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Managing COVID-19 across the Indo-Pacific

A guide for emergency departments
with limited resources

20 March 2020

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ABOUT

This guide

The COVID-19 pandemic will stretch hospital resources all over the world. Emergency Departments (EDs) in high-income countries are vulnerable, but those in low and middle-income countries are likely to be impacted more significantly.

This guide provides consensus-based advice on how to optimise resources during the pandemic. The information is structured into four components: **Systems, Space, Supplies** and **Staff**.

The information in this guide is generic in nature, and will not be applicable to every ED. Although the guide references technical guidance from the World Health Organization (WHO), local guidelines and procedures should be followed wherever they exist.

The Australasian College for Emergency Medicine

The Australasian College for Emergency Medicine (ACEM) is the not-for-profit organisation responsible for training emergency physicians and advancement of professional standards in emergency medicine in Australia and New Zealand.

Our vision is to be the trusted authority for ensuring clinical, professional and training standards in the provision of quality, patient-focused emergency care.

Our mission is to promote excellence in the delivery of quality emergency care to all of our communities through our committed and expert members.

Acknowledgements

This document was developed by a working party of the Australasian College for Emergency Medicine (ACEM) Global Emergency Care Committee, led by ACEM Fellow **Dr Rob Mitchell**. ACEM is grateful to those emergency physicians from across the Indo-Pacific region who generously provided input, including **Dr Gary Nou** (Papua New Guinea), **Dr Vincent Atua** (Vanuatu), **Dr Gustodio Alves de Jesus** (Timor Leste) and **Dr Patrick Toito'ona** (Solomon Islands). Feedback on the document is encouraged and should be directed to gecnetwork@acem.org.au

Disclaimer

This advice in this document is based on expert consensus and, where possible, guidelines and resources from key public health authorities. ACEM accepts no responsibility for the accuracy of the content.

Key points

- + COVID-19 requires a whole-of-hospital response – managing the pandemic is not just the responsibility of the ED. Ensure all clinicians and ancillary staff are part of the plan, and the load is shared across the entire facility
- + It is critical that staff practice the highest standard of infection prevention and control (IPC) that can be achieved. Train clinicians to use personal protective equipment (PPE) appropriately, and endeavour to ensure an adequate supply of surgical masks, gloves, alcohol-based hand rub and soap
- + Establish clearly demarcated isolation zones in the ED and the waiting area. Minimise the volume of patients in the ED where possible and cohort patients with respiratory symptoms away from others
- + The most helpful therapy for medium and high-acuity patients is oxygen. Stockpile as many concentrators and cylinders as possible, and have clear indications for use of oxygen
- + Conduct regular staff briefings and debriefings. Thank clinicians for their service and monitor their wellbeing. Make sure that all staff feel included, empowered, motivated and supported

Global Emergency Care

ACEM's Global Emergency Care Committee (GECCo) and Global Emergency Care (GEC) Desk is committed to improving the capacity of Low and Middle- Income Countries (LMICs) to deliver safe and effective emergency care, with a focus on the Indo-Pacific Region.

The College seeks to do this by supporting locally-led EC capacity development: our approach to GEC activities and projects is to promote reciprocal, sustainable and mutually beneficial partnerships; focus on training and education; ensure accountability and value learning and; striving for best-practice.

Resources

This document references the following resources:

- 1 World Health Organization Regional Office for Europe. Hospital readiness checklist for COVID-19. 24 February 2020.
- 2 Australasian College for Emergency Medicine. Management of Respiratory Disease Outbreaks. 13 March 2020.
- 3 World Health Organization. Clinical management of severe acute respiratory infection (SARI) when COVID-19 disease is suspected. 13 March 2020.
- 4 World Health Organization. Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected. 25 January 2020.
- 5 World Health Organization. Rational use of personal protective equipment for coronavirus disease 2019 (COVID-19). 27 February 2020.

Additional technical advice and educational materials are available at:

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019>

Systems

Ensure ED processes are consistent with broader public health and hospital management strategies.

Prepare the ED and hospital as much as possible. A checklist approach can be used – see [Resource 1](#), the World Health Organization’s *Hospital readiness checklist for COVID-19*.

Identify suspected cases using local case definitions. Ensure staff are aware of these definitions and maintain a high level of clinical suspicion at all times.

Establish a screening and/or triage process at the entrance to the hospital – see Resources [1](#) and [2](#). Use simple risk stratification tools to stream suspected cases into different areas based on clinical severity (see example on next page), for example:

- + **Low acuity patients** – divert to nearby surge clinic if available (see below)
- + **Medium acuity patients** – direct to isolation zone within the ED, or other designated area of the hospital
- + **High acuity patients** – escort to resuscitation area within the ED

Maintain IPC to the highest possible standard. Educate staff and patients about PPE requirements and ensure treatment spaces are cleaned regularly – see Resources [3](#), [4](#) and [5](#).

Minimise the volume of patients in the ED and isolate patients with respiratory symptoms away from others – see Resources [2](#) and [3](#). The following approaches may assist with this:

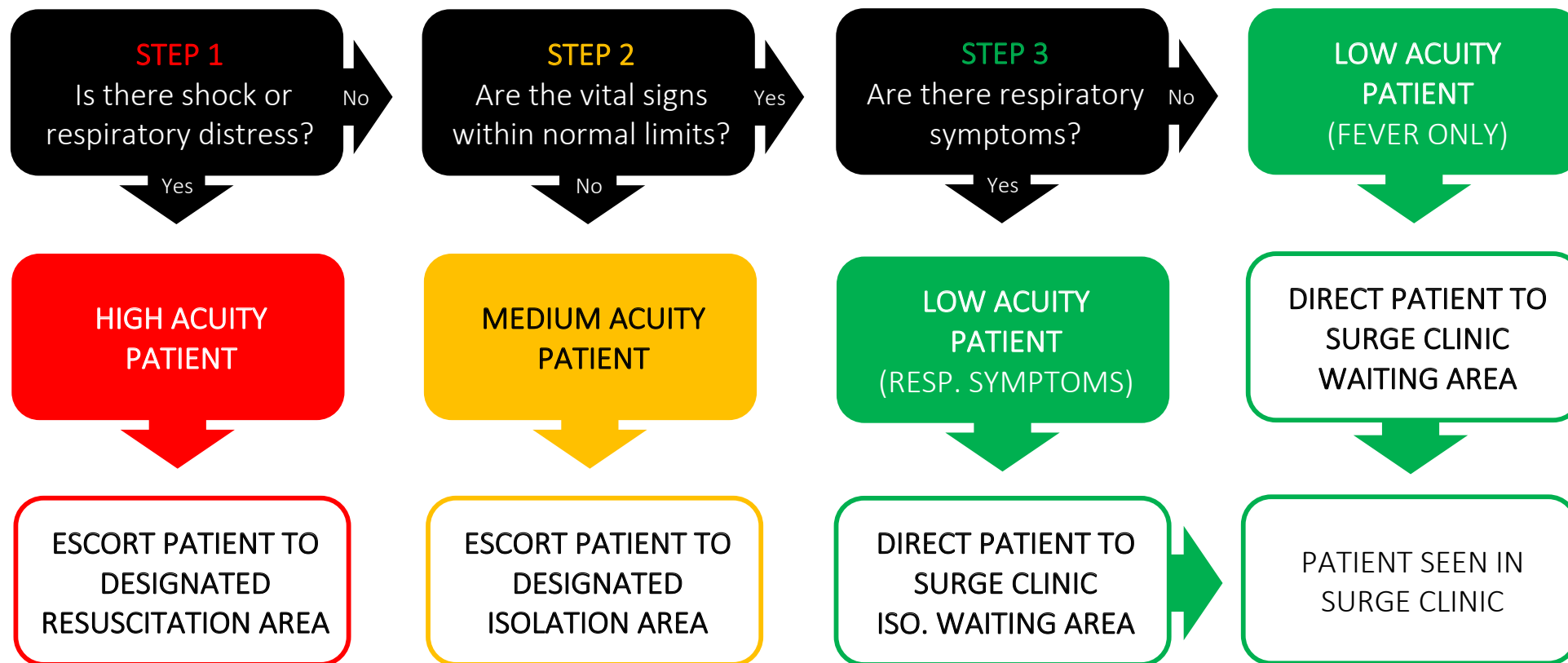
- + Establish a surge clinic in a nearby area for low acuity patients with fever and/or respiratory symptoms, rather than assessing them in ED. In order to preserve resources, this clinic should not be staffed by ED personnel
- + Develop clear admission criteria and discharge as many patients as possible back to the community. Provide ‘when to return’ advice and clear isolation instructions to minimise spread of the virus
- + Maintain flow through the ED. Ensure the hospital has established an isolation ward and patients requiring admission are transferred as rapidly as possible

Consider developing criteria for treatment rationalisation – a palliative or comfort based approach may be appropriate in some high acuity patients who have care needs that exceed local capacity. It is estimated that 5-10% of all cases will require critical care support, which is unlikely to be available in resource limited settings.

Ensure that ED patients without respiratory symptoms are not forgotten – these patients are vulnerable, and can easily be neglected.

TRIAGE FLOWCHART FOR PATIENTS PRESENTING WITH FEVER AND/OR RESPIRATORY SYMPTOMS

Patients without fever and/or respiratory symptoms should be assessed using routine ED triage and reception processes



PROVIDE INFECTION PREVENTION AND CONTROL ADVICE TO ALL PATIENTS

Taken from

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acem.org.au/covid-19

Space

Establish a clearly marked screening and/or triage station at the entrance to the hospital. Choose an area that is well ventilated, for example a large veranda or other outdoor location. Ensure it is clear and well sign-posted. Design the flow of patients to minimise crowding and ensure staff wear appropriate PPE.

Designate waiting areas in the ED and surge clinic for patients with respiratory symptoms. Choose an area that is well ventilated and visible to the triage officer or supervising clinician. If possible, issue every patient in the waiting area with a surgical mask and advise them to follow the IPC advice in Box 1 below – importantly, tell patients to remain at least 1m apart from one another.

Allocate an area for the management of symptomatic, medium acuity patients with the following considerations:

- + Patients in this area may need low-flow oxygen, so arrange a concentrator(s) if available
- + Separate these patients from other ED and admitted patients as much as possible

Designate an area of the ED for the management of symptomatic, high acuity patients with the following considerations:

- + Patients in this area are likely to need high-flow oxygen
- + In some settings, more advanced therapies, such as non-invasive and invasive ventilation, may be available – for advice on management, see [Resource 3](#)
- + Where available, low-cost, flow-dependent Continuous Positive Airway Pressure (CPAP) devices may have a role to play in providing non-invasive respiratory support. Be aware that CPAP may increase aerosolisation of the virus
- + Ensure this area is regularly cleaned, consistent with IPC advice - see Resources 3-5



Box 1. Basic IPC advice for patients, staff and community members

Perform hand hygiene regularly. If your hands are clean, you can use alcohol-based hand rub. If your hands are visibly dirty, use soap and water.

- + **Avoid touching your eyes, nose and mouth**
- + **Maintain a social distance - sit or stand at least 1m away from others**
- + **Cover your mouth and nose with your elbow when sneezing or coughing**
- + **Wear a surgical mask as directed**

Supplies

Develop safe processes for cleaning and re-using equipment – see Resources 3, 4 and 5.

Anticipate equipment needs and stockpile where possible. High demand equipment and disposable items will include:

- + Oxygen, oxygen concentrators, oxygen masks and tubing
- + Antipyretics - simple paracetamol is recommended
- + IV antibiotics to cover respiratory pathogens
- + Salbutamol metered dose inhalers and locally made spacers (see Box 2). Consider using non-clinical staff or volunteers to make plenty of these
- + PPE, especially surgical masks, gloves, soap and alcohol-based hand rub
- + Detergent and disinfectant. Standard hospital grade products, such as sodium hypochlorite are suitable - see [Resource 3](#)

Follow WHO guidelines and practice resource stewardship where possible – see [Resource 3](#). Have clear indications for using:

- + **Oxygen:** for example, Sp <90% RA for stable patients, Sp <92% RA for pregnant women and Sp <94% RA for patients with respiratory distress
- + **Antibiotics:** for example, medium and high acuity patients only
- + **IV fluids:** minimise IV fluid use unless there is evidence of shock – excess fluid may worsen oxygenation
- + **Nebulisers:** avoid where possible because of the risk of aerosolisation and virus transmission - use metered dose inhalers instead, such as demonstrated in Box 2
- + **Steroids:** not currently recommended as routine treatment for patients with severe respiratory infection secondary to COVID-19



Box 2. Metered dose inhalers

Selected patients with COVID-19 will have co-morbidities (eg. asthma) that require the use of salbutamol. Wherever possible, avoid using nebulisers for these patients due to the risk of aerosolisation. Rather, metered dose inhalers (MDIs) are recommended.

If spacers are not available, they can be made locally with a clean plastic bottle and dispensed for single patient use. Consider using ancillary staff or community volunteers to make lots of these.

Image reproduced from *British Medical Journal*. Woollard M, Greaves I4 Shortness of breath *Emergency Medicine Journal* 2004;21:341-350



Staff

Speak with hospital management about securing extra resources – the ED will require the assistance of staff members from other parts of the health service. Update the staff contact list and plan for absenteeism. Regularly review the roster and shift coverage to ensure the load is fairly distributed among all staff.

Conduct regular staff briefings and debriefings. Thank clinicians for their service and monitor their wellbeing. Make sure that all staff feel included, empowered, motivated and supported – see [Resource 2](#).

Identify staff who are high risk for infection, for example immunosuppressed or pregnant, and designate these individuals to other work areas.

Train staff in the systems and processes that have been developed. Remind staff to maintain the highest standard of universal precautions, PPE utilisation and IPC practice that can be achieved – see Box 1 and Resources [4](#) and [5](#).

- + Perform hand hygiene regularly. Remember the WHO 5 Moments - see Box 3
- + Gloves and surgical masks should be worn at all times when in contact with suspected cases - N95 masks are not necessary unless aerosol generating procedures are being performed
- + Wherever possible, masks should be changed when damp, and single-use masks should not be re-used

Remind staff that they should not work if they have acute respiratory symptoms, and should monitor their own health and wellbeing – they can protect others by coughing into elbows, observing social spacing and practising hand hygiene.

Use ancillary staff and other community members for non-technical tasks, such as cleaning and washing equipment.

Remind others that the ED can't do it alone. COVID-19 requires a whole-of-government, whole-of-health and whole-of-hospital response.



Box 3. WHO 5 Moments for Hand Hygiene

- + Before touching a patient
- + Before clean/aseptic procedures
- + After body fluid exposure/risk - including contact or potential contact with respiratory secretions
- + After touching a patient
- + After touching patient surroundings

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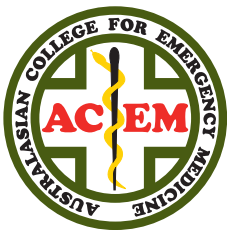
For the latest information about COVID-19 from ACEM, go to acem.org.au/COVID-19

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