

Decision making tool to integrate CPAP treatment in the management of hypoxaemic respiratory failure for COVID 19 patients.

NIV (Both CPAP and BiPAP) will NOT be initiated in any patient unless,

- Appropriate COVID-19 swabs have been taken.
- The ceiling of care is clearly documented.
- The CPR status of the patient is appropriately documented in the case notes.

Ward based NIV will continue to be provided for hypercapnic respiratory failure to those patients where Critical Care is NOT appropriate and the ceiling of treatment will be NIV. e.g. patients with Chronic Obstructive Pulmonary Disease or neuromuscular weakness. Treatment with NIV on ward 2C will be provided as directed by the respiratory team.

CPAP is the preferred form of non-invasive ventilatory support in the management of the hypoxaemic COVID-19 patient. Its use does not replace invasive mechanical ventilation (IMV), but early application may provide a bridge to IMV. **Where there is no adequate response, where clinical decline continues, or where patient tolerance limits use, early intubation and mechanical ventilation should be sought where appropriate.** In Type 1 respiratory failure repeated ABG's are NOT required to monitor progress. Oxygen saturation will suffice.

Overall management will be governed by performance status of the patient as measured by the CLINICAL FRAILTY SCALE or equivalent, and whether the patient is a candidate for critical care. The Clinical Frailty Scale (CFS) should be used in patients over 65 with no stable long term disability or autism. An individualised assessment for patients under 65 or any age with long term disability, learning disabilities or autism, should be used.

If a patient's clinical frailty is deemed 5 (or equivalent) or more they are less likely to benefit from organ support on Critical Care. A decision should be made by the treating team regarding the ceiling of treatment and this should be discussed with the patient (if possible)

Where decision making is difficult, support may be required from clinical colleagues.

If a patient is deemed not to be suitable for escalation to Critical Care, then this should be clearly documented in the case notes along with a treatment plan and a completed DNA-CPR (Lilac) Form. CPAP or High Flow Oxygen Can be initiated in these patients only in a suitable enclosed area (ED/Respiratory NIV area). Palliation as appropriate should be initiated.

If a patient's clinical frailty is deemed 4 or less (or equivalent) they may be considered a candidate for ITU. Critical care assessment should occur as quickly as practically possible. CPAP can provide a bridge to IMV and therefore transfer to a suitable area should occur.

Palliation as appropriate should be initiated.

Clinical Frailty Scale



1 Very Fit – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.



7 Severely Frail – Completely dependent for personal care, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~6 months).



2 Well – People who have no active disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally, e.g. seasonally.



8 Very Severely Frail – Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.



3 Managing Well – People whose medical problems are well controlled, but are not regularly active beyond routine walking.



9 Terminally Ill – Approaching the end of life. This category applies to people with a life expectancy <6 months, who are not otherwise evidently frail.



4 Vulnerable – While not dependent on others for daily help, often symptoms limit activities. A common complaint is being "slowed up", and/or being tired during the day.



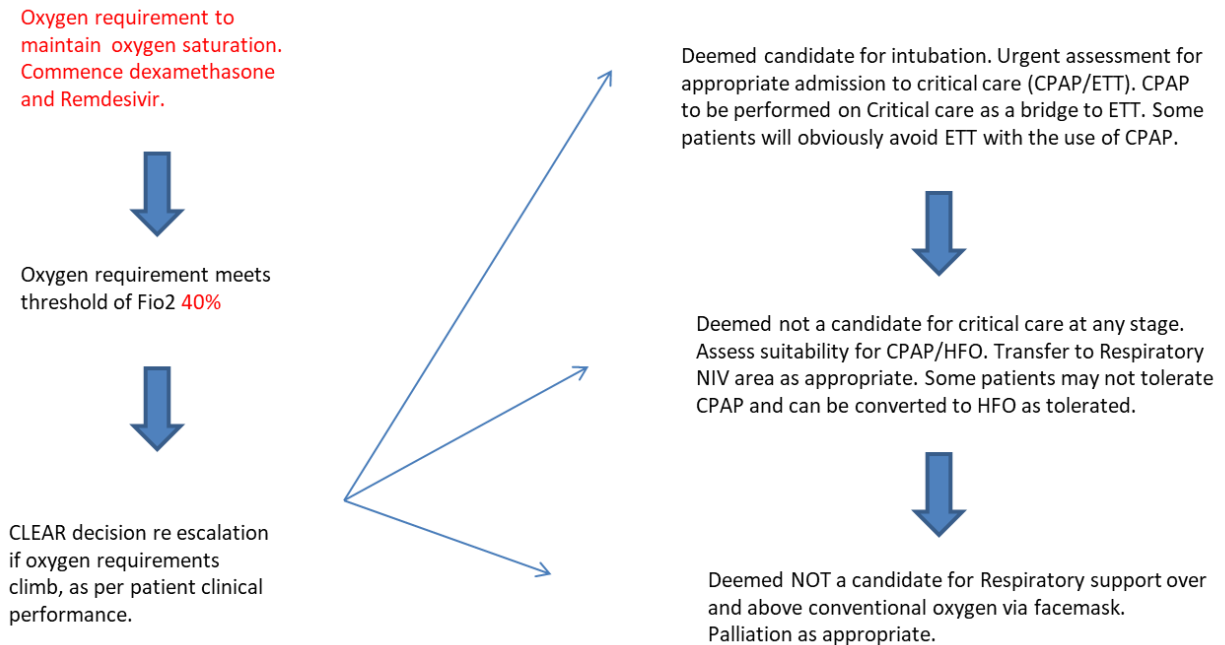
5 Mildly Frail – These people often have more evident slowing, and need help in high order IADLs (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.



6 Moderately Frail – People need help with all outside activities and with keeping house. Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.

Following clinical assessment 3 potential scenarios will emerge:

Decision making tool for patients with strongly suspected or confirmed COVID-19 requiring oxygen.



If CPAP is initiated and the patient is transferred to the Respiratory COVID area, its continued use will be at the discretion of the treating Respiratory Physician.

On its withdrawal the patient will be converted to either High Flow Oxygen (Airvo) or Oxygen (up to a maximum of 15 litres using a face mask with reservoir bag).

Appropriate palliation measures (end of life) will be commenced.

CPAP use and device settings.

CPAP is the primary mode of non-invasive respiratory support for hypoxaemic COVID-19 patients.

Typical Hospital based NIV unit.

Settings are 10 cmH₂O + 60% oxygen.

If using an NIV machine to provide CPAP – change the mode accordingly (Primary settings)

Both CPAP pressure (Max 20 cmH₂O) and FiO₂ can be increased depending on tolerance and clinical response, guided by oxygen saturation.

Aim for SpO₂ of 92% to 96%

Typical Domiciliary (Home) NIV Unit. (PREFERRED DEVICE)

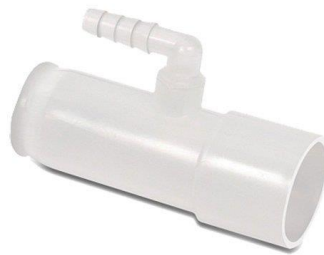
Settings are 10 cmH₂O + 15l/min oxygen.

There are two ways to connect the CPAP machine to oxygen: directly to the CPAP mask or by using a bleed adapter.

1. Oxygen Port on CPAP Mask - CPAP masks have an oxygen port already built in. It will usually have a cap on it. If an oxygen port exists on the mask, remove the cap, connect the oxygen tubing directly to the port. Flow rate (15l/min)



2. Oxygen Bleed Adapters - Some CPAP mask designs do not have an oxygen port. If the CPAP mask does not, a bleed adapter or tubing with an oxygen bleed line will need to be used. The oxygen tubing connects to the port.



The key to successful use of CPAP is patient tolerance. Small doses of benzodiazepine or opioid can be considered to facilitate this.

High flow face masks with non-rebreathe reservoir bags should be considered as a modality to give short breaks to patients from CPAP.

Use appropriate PPE as for aerosol generating procedures.