St Helens and Knowsley Teaching Hospitals NHS Trust

CPAP Use in the Respiratory Support Unit

For use in confirmed COVID positive patients or in individuals who meet the definition of highly suspicious for COVID positivity (close contact with confirmed case or bilateral pneumonic changes or increasing oxygen requirements).

This guidance is for management of type 1 respiratory failure. If a patient presents with type 2 respiratory failure discuss further management with the respiratory consultant via switchboard.

Patient criteria for delivery of CPAP on 2C/2D

Access to the CPAP area (beds 4-8 on 2C and beds 7-11 on 2D) is only via discussion with the Respiratory consultant on call – this is a clinical decision and the referral should be made by a medical SpR or a consultant via switchboard.

1. Patient is **NOT** for escalation to ICU for invasive ventilation
2. Patient is tolerating oxygen via face mask
3. There is no evidence of terminal illness, for instance, advanced dementia or metastatic cancer
4. Patient does not have evidence of moderate frailty – ie they do not need help with outside activities and with keeping house. They do not have problems with stairs or bathing and do not need assistance with dressing
5. Patient receiving ≥60% oxygen with sats <92%
6. RR≥21bpm
7. Adequate level of consciousness (A or V on AVPU score)
8. Every decision to refer for CPAP is individualised and if in doubt call the respiratory consultant on-call via switchboard

Absolute contra-indications to CPAP (as per BTS/ICS NIV guidance)

1. Severe facial deformity
2. Facial burns
3. Fixed upper airway obstruction

Patients should receive a trial of CPAP for around 60 minutes

Definition of failure of CPAP treatment after 60 minutes, failure to:

- Tolerate CPAP
- Improve saturations or reduce oxygen requirement
- Improve respiratory rate

If patient fails trial of CPAP following 60 minutes then CPAP should be withdrawn and oxygen applied via a face mask.

If a patient subsequently deteriorates whilst on CPAP it should be withdrawn, oxygen should be given via a NRB face mask and consider giving medication to control symptoms.

CPAP use and device settings

CPAP is the primary mode of non-invasive respiratory support for hypoxaemic COVID-19 patients. Suggested initial settings are 10cm H2O + 60% oxygen or 15 l/pm entrained into the facemask.

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.

Oxygen should be given entraining oxygen into the CPAP mask rather than the CPAP base unit.

Consider intravenous fluids (1 litre every 12 hours) and nutritional supplementation in addition to oral intake while patients are on CPAP.

Staffing

The medical CPAP unit must be staffed appropriately. This is considered to be 2 trained nurses for the first 5 patients and 3 trained nurses for between 6-10 patients. These safe staffing numbers take into consideration the geographical layout of the Respiratory support Unit which bridges wards 2C and 2D.

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Proven or Likely COVID-19 and not for ITU

(see ITU escalation protocol)

Prescribe anticipatory medications

Sats < 92% on room air

Sats ≥ 92% on room air

O_2 via Venturi or nasal cannulae to achieve sats ≥ 92%

Sats < 92% on ≥40% O_2

Consider discharge target sats 92%-96%

Sats ≥ 92% on < 40% O_2

CONSIDER CPAP

COVID Ward preferably 2B/2C

Increase O_2 to 60%

Sats ≥ 92%

Sats < 92%

COVID Ward 2B/2C

Fulfils escalation criteria for CPAP

Does not fulfil criteria for CPAP

Medical registrar or consultant to phone "on call" respiratory consultant via switchboard

NRB O_2 as ceiling of oxygen care and consider opioids & benzodiazepines

Decision made either to provide CPAP on 2C or alternate ceiling of care

Criteria for CPAP (see page 1)

Not for ICU

Tolerating Face mask

No terminal illness

No moderate/severe frailty

Receiving ≥60% O_2

RR≥21

A or V on AVPU