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# Use of Ward-Based CPAP in the Management of COVID-19 Pneumonia and Type I Respiratory Failure

- Continuous Positive Airway Pressure (CPAP) is a recognized supportive therapy for Type 1 Respiratory Failure in the context of COVID-19 pneumonia.
- CPAP treatment should be considered in COVID-19 Pneumonia where patients are ***not maintaining Sats 90-94% on 8L of oxygen therapy*** (as per Swansea Bay Guidelines – see enclosed).
- Ward J and ITU offer beds for CPAP. *In those felt suitable for ICU referral, if there is clinical concern of very severe illness or co-morbid factors, **early discussion with ICU is advised** to discuss the most appropriate location for CPAP delivery*
- The number of beds available for ward-based CPAP is likely to expand to meet the need and thus discussion with Ward J staff and the bed managers is vital. ***COVID-19 Pneumonia is the only indication for acute ward-based CPAP on ward J.***
- In conjunction with initiating CPAP therapy appropriate treatment for COVID-19 Infection should be initiated (Dexamethasone, Remdesivir, BD LMWH).
- Patients who are not tolerating CPAP or have rapidly deteriorating respiratory failure should be escalated to ITU promptly if for escalation or considered for palliation.
- Completion of this document is ESSENTIAL prior to commencing CPAP.



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## **Pathway for the use of Ward-Based CPAP in the management of COVID-19 Pneumonia and Type I Respiratory Failure**

Patient from ED or ward referred **urgently** to CPAP TEAM via **RED NIV Alert** (On-call medical SpR, NIV unit nurse, outreach team +/- Respiratory Team) as per CPAP protocol (see overleaf)



Patient reviewed and deemed suitable to trial Ward Based CPAP

**Arrange with bed managers to fast track patient to Ward J. CPAP to be started in Ward J or ITU only (patients cannot be transferred on CPAP)**



Counsel the patient on the use of CPAP and **initiate CPAP as soon as possible**

During working hours, the respiratory SpR/Consultant should be informed about a patient in whom CPAP is initiated.

The CPAP management plan **MUST** be completed and signed by medical SpR/Consultant.

**PRIOR** to commencement of CPAP, a decision regarding treatment escalation/ceiling of treatment in the event of treatment failure should be clearly **documented in the notes AND communicated to all staff.**

**Those patients who may be suitable for treatment escalation should be discussed with ITU early**

Patient Details (addressograph)

Address.....

.....

Date of birth.....

Please tick as appropriate:

**Inclusion criteria for ward-based CPAP**

- COVID-19 confirmed or suspected pneumonia with Type 1 Respiratory Failure
- Able to protect airway
- Conscious and cooperative
- Potential for recovery to quality of life acceptable to the patient
- Patient's wishes considered

**Relative Contraindications for ward-based CPAP**

In the following situations, formal invasive ventilation/ITU care should be considered first. CPAP may be used despite the presence of these contraindications if it is to be the 'ceiling' of treatment, **and** is appropriate treatment in relation to the patient's quality of life

- Excess bronchial secretions
- Severe confusion and agitation
- GCS <10, inability to protect airway
- Life threatening hypoxemia/ rapidly deteriorating oxygenation (sats <90% on 15L)
- Bullous lung disease
- Bowel obstruction
- Hemodynamic instability requiring inotropes (Unless in critical care)
- Recent facial/upper airway/thoracic or G.I. surgery
- Severe co-morbidity (palliative care may be more appropriate) – consider Clinical Frailty Score
- Previous episodes of ventilator-associated pneumothorax

**ABSOLUTE CONTRA-INDICATION FOR WARD BASED CPAP**

- Respiratory arrest
- Undrained pneumothorax
- Fixed airway obstruction
- Facial trauma/burns
- Vomiting
- Type II respiratory failure/life-threatening hypoxaemia

<p>Patient Details (addressograph)</p> <p>Address.....</p> <p>.....</p> <p>Date of birth.....</p>
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**First you must decide:**

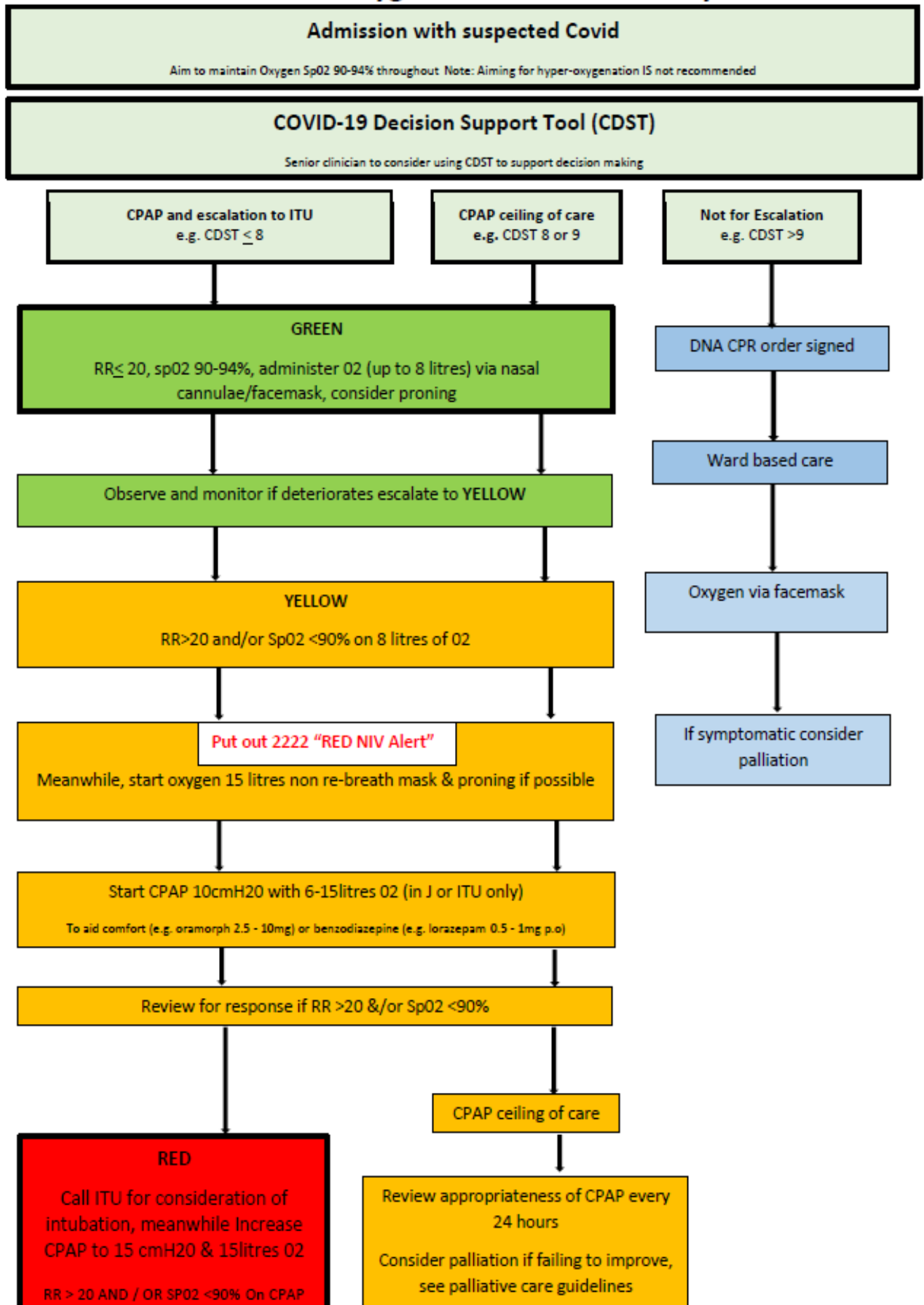
- Does the patient meet the criteria (after reviewing inclusion criteria and contra-indications) for ward-based CPAP? Yes/No
- CXR reviewed to exclude pneumothorax/consolidation/bullous lung disease? Yes/No
- Is there any contra-indication for ward- based CPAP? Yes/No
- If yes, what is the reason for considering ward based CPAP.....

**Escalation Decision Making**

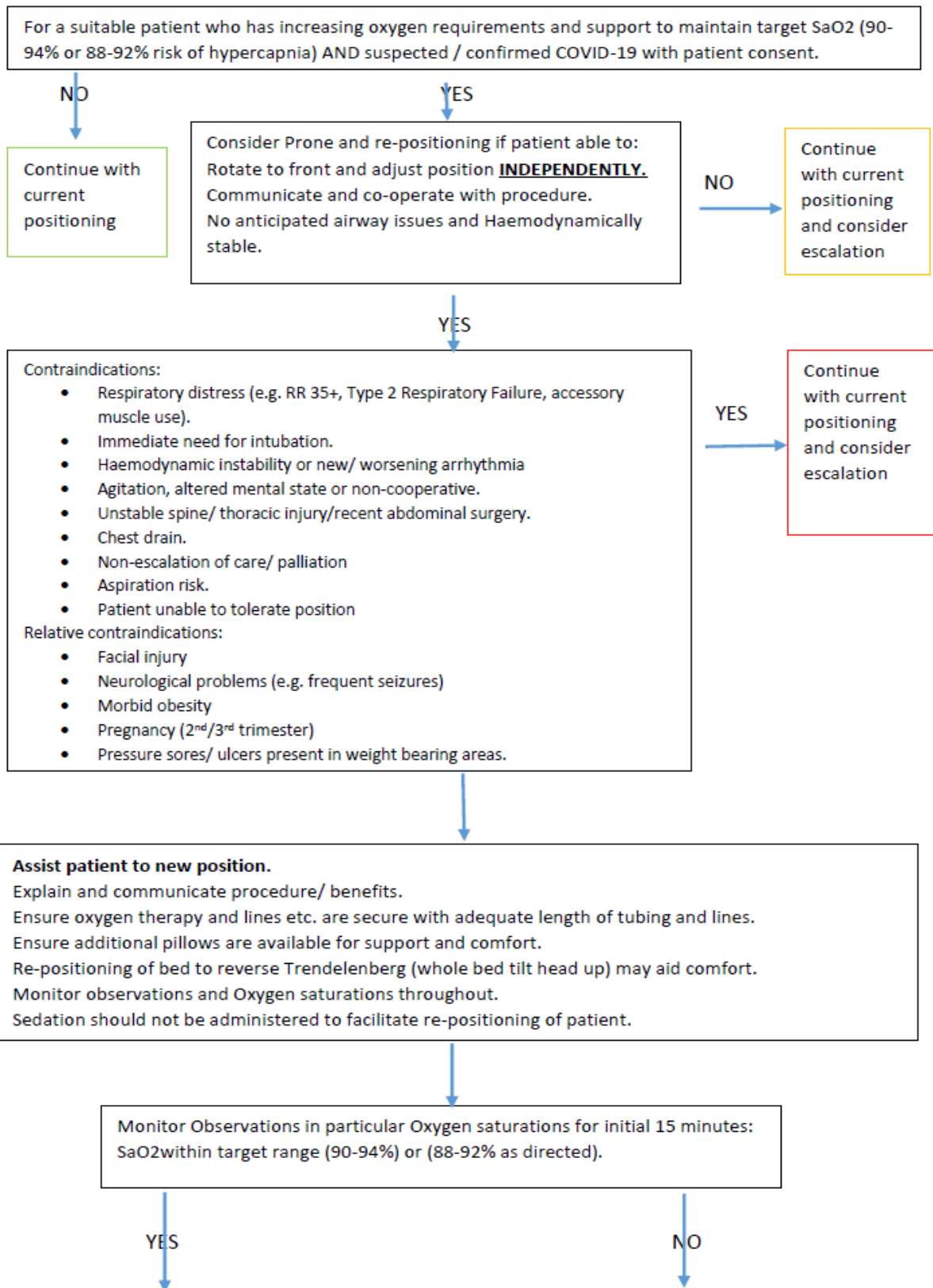
	Unlikely CPAP or ICU candidate	Possible CPAP candidate Uncertain ICU candidate	Clear CPAP candidate Likely ICU candidate
<b>Example patient:</b> Use clinical frailty scale with caution in patients with long-term stable disability, learning disability, autism or younger age.	e.g. poor physiological reserve, marked frailty, severe co-morbidities	e.g. moderate physiological reserve, frailty, significant co-morbidities	e.g. good physiological reserve, not frail, minimal co-morbidities
<b>When to refer to ICU?</b>	Only if Medical Consultant feels ICU opinion is appropriate.  e.g. for second opinion regarding potential ceiling if disagreement with patient/family or genuine uncertainty. <b>Consider palliative team input to assist in a joint decision making/management plan</b>	If felt that escalation to ICU treatment would be <b>potentially</b> appropriate – <b>then early referral to ICU is highly desirable.</b>  ICU likely to ask for discussion with Medical Consultant first	Early discussion if poor response or clinical concern.  <b>All patients with multiple organ impairment (e.g. CPAP and AKI).</b>

In borderline cases advice should normally be sought from the on-call physician before referral to ICU	
Suitable for ward-based CPAP <input type="checkbox"/> and for referral to ICU if needed	Suitable for CPAP <input type="checkbox"/> not for escalation to ICU
Does the patient need discussing with ICU? <b>Yes / No</b> <small>(clinical concern, very severe illness, other organ failure, borderline candidate)</small>  Outcome if discussed:..... ..... .....	Maximal level of therapy:..... ..... Are symptom control medications prescribed? <b>Yes / No</b> <small>(consider if concerned about early CPAP failure)</small>  Do indications for palliation need documenting? <b>Yes / No</b>
Consider resuscitation status. Has an All Wales DNACPR form been completed? <b>Yes / No</b>	
Consultant/Registrar signature: ..... Date/time: ...../...../.....	

# COVID-19 Oxygen Escalation Pathway

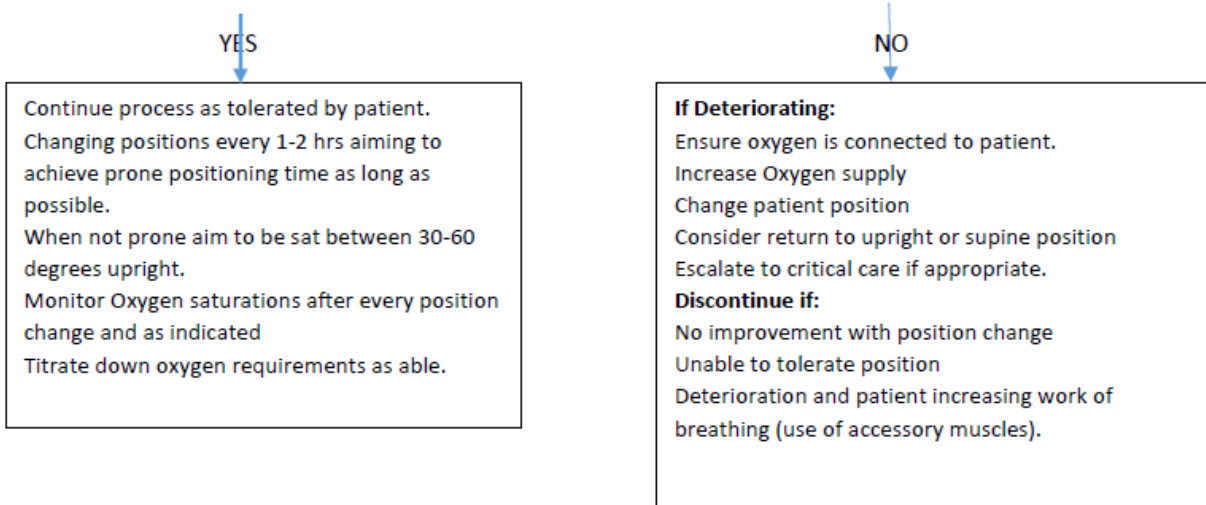


### Flow diagram decision tool for Conscious Patient positioning with confirmed or suspected COVID-19

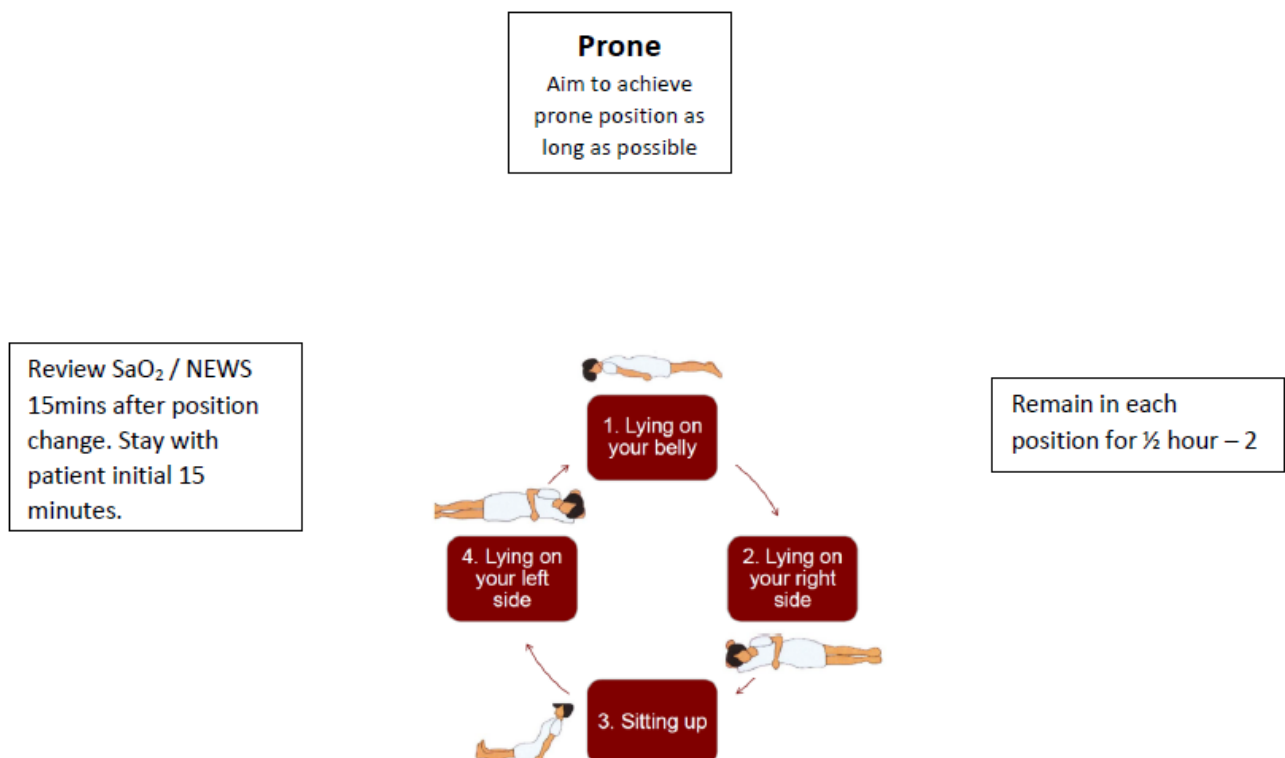


Adapted from intensive care society guidance April 2020

### Flow diagram decision tool for Conscious Patient positioning with confirmed or suspected COVID-19



### Patient position changes

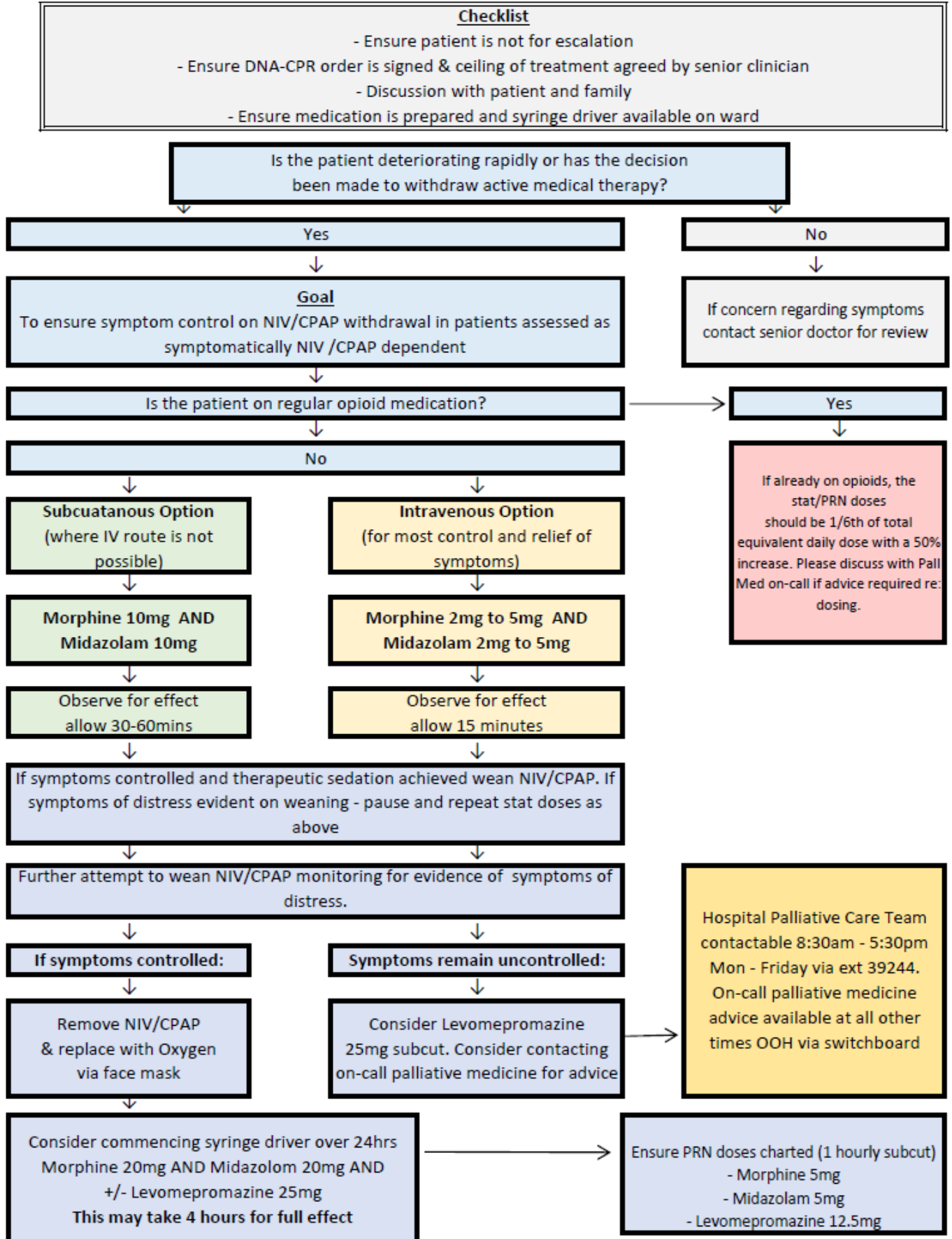


Adapted from intensive care society guidance April 2020

## COVID-19 Guideline for Withdrawal of NIV

*patients with suspected/proven COVID-19*

The aim of this guidance is to ensure symptom control in patients whose condition is irreversibly deteriorating, entering the last hours to days of life and who are symptomatically dependent on Non-Invasive Ventilation (NIV or CPAP). For those not symptomatically dependent it may be possible to ensure symptom control using standard end of life care medication guidance (see COIN). Palliative Medicine advice available 24/7 if required (see number below).





## Swansea Bay University Health Board

### Authorisation Form for Publication onto COIN/COVID-19 Intranet Page

Please ensure that all questions are answered – if not applicable please put N/A

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1. Relevant keywords will assist COIN users with searching for documents