

# Cardiac Care Unit High Dependency Patients - BiPAP



COVID - 19

Be Safe -- Be Smart -- Be Kind

## Guidelines for Management of BiPAP in CCU HDU

*This QRG is intended as a guide to support clinicians to deliver BiPAP noninvasive ventilation (NIV) in the CCU HDU setting as part of the WH COVID-19 response.*

*CPAP will continue to be administered as per the preexisting CCU guidelines and procedures.*

Patients requiring BiPAP & CPAP in CCU will require HDU admission. The patient will be referred to the ICU registrar who ensure the cardiology registrar is aware that the patient has been accepted.

Prior to commencing NIV patients should be assessed for suitability by the HDU Cardiology Registrar, who may consult with ICU as required. All patients should have a completed acute resuscitation plan documented.

Appropriate PPE should be worn at all times when delivering NIV – refer to current COVID guidelines found on the COVID-19 micro site.

Definitions:

NIV: Non-Invasive Ventilation

BiPAP: Bi-level Positive Airway Pressure

CPAP: Continuous Positive Airway Pressure

IPAP: Inspiratory Positive Airway Pressure

EPAP Expiratory Positive Airway Pressure

### Medical Orders:

The Cardiology registrar allocated to manage HDU patients/night HMO will prescribe BiPAP settings on the CCU HDU BiPAP Administration Orders form (appendix 1). The Cardiology registrar will consult with ICU Medical team in regards to clinical issues related to NIV settings.

At a minimum the BiPAP administration orders will include:

- Parameters of NIV therapy with reportable limits
- NIV setting

### Nursing Care required for the patient receiving NIV:

- Patients will be nursed to maintain visual observation whenever possible
- 15 minutely observations for the first hour of treatment
- 30 minutely observations for the next 2 hours
- Hourly observations ongoing
- ABGs – 30min after commencement of treatment and/or 30mins after any adjustments to settings if clinically indicated (assess and document work of breathing, oxygen saturations, pt colour, NIV settings and vital signs)
- Monitor skin integrity around NIV mask and document as per CCU HDU BiPAP Administration Orders form (appendix 1)

### Recommended starting settings for NIV in the CCU HDU

**Please note, the treatment plan should be adjusted according to clinical needs. Please escalate and consult with the ICU medical team as required if treatment requirements for the patient change.**

While in the CCU HDU the NIV settings will be managed by the cardiology registrar and prescribed on the medical order chart (appendix 1). The recommended settings for commencing BiPAP include:

V60 Mode: S/T Mode (spontaneous / timed)

IPAP: 10 cmH<sub>2</sub>O

EPAP: 5 cmH<sub>2</sub>O

FIO<sub>2</sub>: 5% above current O<sub>2</sub> requirements (for example, 10Lt 40% FiO<sub>2</sub> would commence at 45% FiO<sub>2</sub>. FiO<sub>2</sub> is weaned according to clinical assessment of the patient).

Please note that these are a base recommendation only, NIV settings need to be adjusted to the needs of the patient.

## Documentation

When patients are on NIV in the CCU HDU documentation occurs on the EMR. The location for this documentation is the Interactive View > Adult Systems Assessment > Non-Invasive Ventilation.

Non-invasive Ventilation			
Ventilation Activity			
Non-invasive Ventilator Settings			
Mode		BiPAP	
FiO2	%		
Inspiratory Pressure	cmH2O		
Expiratory Pressure	cmH2O		
Ventilator Respiratory Rate	br/min		
Pressure Support/PEEP	cmH2O		
Oxygen Flow Rate	L/min	2	1
Inspiratory Time	sec(s)		
Expiratory Time	sec(s)		
Slope/Rise Time	sec(s)		
Rise Level			
Inspiratory Pressure Minimum			
Inspiratory Pressure Maximum			
Expiratory Pressure Minimum			
Expiratory Pressure Maximum			

### Required BiPAP Settings Documentation on each assessment:

- Mode (e.g. BiPAP, spontaneous)
- FiO2
- Inspiratory Pressure (IPAP)
- Expiratory Pressure (EPAP)
- Oxygen flow rate

## Appendix 1: COVID 19: CCU HDU BiPAP Administration orders

Western Health

COVID 19: Cardiac Care Unit High Dependency Patients  
BiPAP Administration orders



This form is only for patients requiring BiPAP therapy in the CCU HDU setting

**Medical Aims of BiPAP therapy:**

Shift (Circle): Am/PM/ND	Aims of therapy	Report if <b>BELOW</b>	Report if <b>ABOVE</b>
PaO <sub>2</sub>			
PaCO <sub>2</sub>			
Oxygen Saturation			
Respiratory Rate			

**NIV Settings**

Back up rate (BPM): \_\_\_\_\_

Date	Date	Date	Date	Date
IPAP	IPAP	IPAP	IPAP	IPAP
EPAP	EPAP	EPAP	EPAP	EPAP
FIO <sub>2</sub>	FIO <sub>2</sub>	FIO <sub>2</sub>	FIO <sub>2</sub>	FIO <sub>2</sub>
<input type="checkbox"/> Intermittent __b% ON __b% OFF	<input type="checkbox"/> Intermittent __b% ON __b% OFF	<input type="checkbox"/> Intermittent __b% ON __b% OFF	<input type="checkbox"/> Intermittent __b% ON __b% OFF	<input type="checkbox"/> Intermittent __b% ON __b% OFF
PRN during day <input type="checkbox"/>	PRN during day <input type="checkbox"/>	PRN during day <input type="checkbox"/>	PRN during day <input type="checkbox"/>	PRN during day <input type="checkbox"/>
PRN Night <input type="checkbox"/>	PRN Night <input type="checkbox"/>	PRN Night <input type="checkbox"/>	PRN Night <input type="checkbox"/>	PRN Night <input type="checkbox"/>
Doctors Signature	Doctors Signature	Doctors Signature	Doctors Signature	Doctors Signature

**NIV (O<sub>2</sub> setting checks)**

AM RN Sign				
PM RN Sign				
ND RN Sign				

**Skin Integrity Checks**

AM RN Sign				
PM RN Sign				
ND RN Sign				

**Blood Gases**

Date & Time						
Taken By						
Reviewed By						
Change to treatment Y/N						
Administration order changed Y/N						

CCU HDU BiPAP Administration Orders