



= YES = NO

(PLACE PATIENT LABEL HERE)

SURNAME: _____ NHI: _____

FIRST NAMES: _____

Date of Birth: ____ / ____ / ____ SEX: _____

COPD CHRONIC OBSTRUCTIVE AIRWAYS DISEASE

(Including Bi-level ventilation)

Use in conjunction with 'Adult NIV - establishment and use in exacerbation COPD' policy (pending)

Date: _____ Time: _____ Assessment nurse: _____ Sign: _____

INCLUSION CRITERIA

Known COPD presenting with acute SOB *and / or*

Pathway initiated by senior clinician

EXCLUSION CRITERIA

Not known with COPD / no smoking history

Select Treatment Pathway on Whiteboard

Enter actual time started

Data collected for audit

STOP! *Not suitable for this Best Care Bundle*

Select 'BCB removed' Treatment Pathway

Continue usual nursing cares

NURSING ASSESSMENT

History, examination, vitals *Documented on Nursing assessment record*

Oxygenation *Start controlled oxygen only if hypoxic - Aim for SpO2 88 - 92%*

Bloods as appropriate *✓ General panel ✓ IV line.*

ECG *Sighted and signed by ED Dr: _____*

Start treatment *See formulary: Steroid and bronchodilators are standing orders*

NPA swab - respiratory panel *For all patients (Includes SARS-CoV-2, Influenza A,B and RSV)*

CXR *For all patients. Mandatory prior to NIV. Can be nurse initiated. Use pathways tab*

ABG *✓ ABG for all patients considered for NIV. Please request clinician to perform.*

RED FLAGS *All red flags boxes must be populated* = YES = NO

Confirmed or probable SARS-CoV-2 Decreased GCS or confusion SpO2 < 80%

Severe respiratory distress Unable to speak words Previous NIV / intubation

Systolic BP < 90 pH < 7.2

<input type="checkbox"/> NO RED FLAGS Continue Best Care Bundle	<input type="checkbox"/> RED FLAGS PRESENT (ANY) → Senior Dr review ASAP (<i>SMO / Senior Registrar</i>) Dr Name: _____ Sign: _____ <input type="checkbox"/> Continue Best Care Bundle. Intervention if any: _____ <input type="checkbox"/> Exit Care Bundle: Reason: _____ ↳ Select 'BCB removed' in TP column, Electronic Whiteboard.
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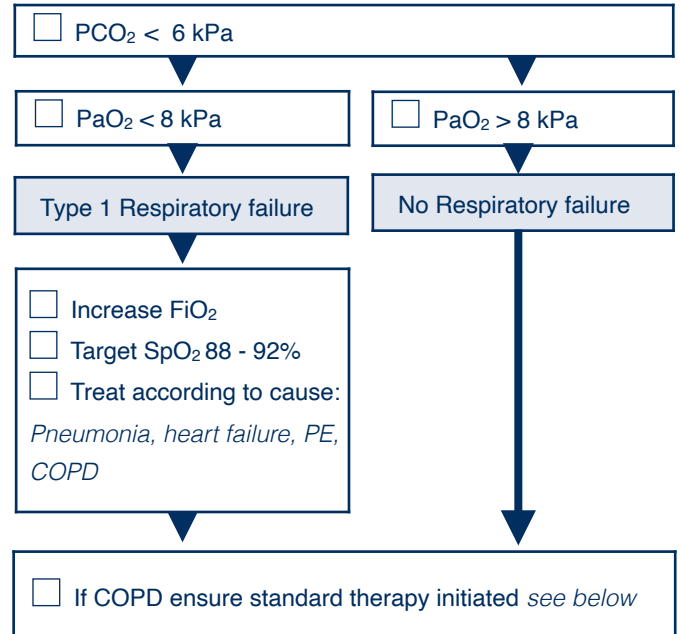
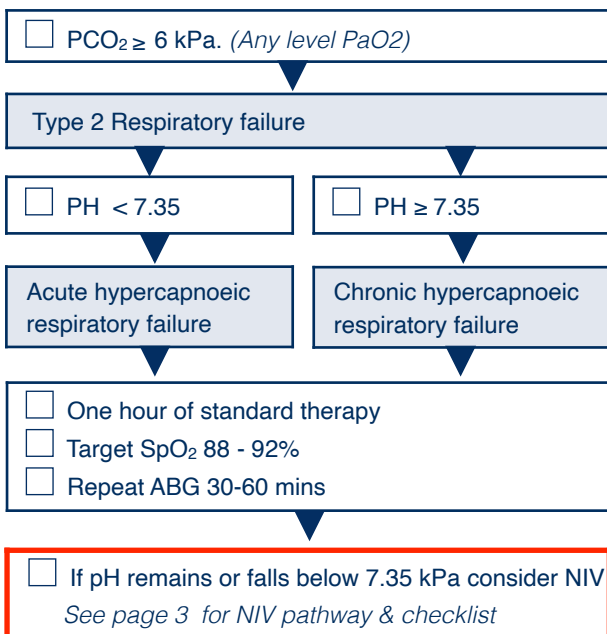
Date of Birth: ____ / ____ / ____

SEX: _____

ARTERIAL BLOOD GAS AIM IS TO IDENTIFY RESPIRATORY FAILURE

ARTERIAL BLOOD GAS (ABG) RECORD - Perform as indicated per pathway or clinical need

Time:							
pH:							
PCO ₂ :							
PO ₂ :							
HCO ₃ :							
FiO ₂ :							



FOR ALL PATIENTS WITH COPD: Standard therapy - See Best care bundles section Medchart

- Oxygen: Aim for SpO₂ 88 - 92 % Complete oxygen prescription on Medchart
*Use controlled oxygen device such as Venturi or HHFNP
HHFNP is an AGP - room allocation and staff PPE as per Oxygen Delivery Devices Policy & COVID screening tool*
- Salbutamol: 6 puffs Q4 hrs regularly (Do not nebulise. 6 puffs equivalent to 2.5 - 5 mg nebulised)
 Plus Salbutamol 6 puffs Q 20 min PRN
- Ipratropium Bromide 6 puffs Q 6 hrs regularly
- Steroids: Prednisone 40 mg OD x 5 days *The first stat dose in ED is a standing order*
Or Hydrocortisone 200 mg STAT, then 100 mg IV Q 8 hrs *If unable to swallow*
- Antibiotics as per WDHB antimicrobial guideline
- Cough: *if patient has productive cough and cannot expectorate - Physiotherapy to assist*

TOP TIPS	RED FLAGS: Discuss early with Resp SMO
Patients with COPD typically have a smoking Hx. Think about smoking cessation / relief as inpatient	Suspected, probable or confirmed SARS-CoV-2 DW COVID SMO or Resp SMO
Controlled oxygen saves lives. Avoid supra-normal oxygenation - It has no benefit and can cause harm	Reduced level of consciousness or confusion
Arterial blood gas (ABG) is essential	History of previous Bi-level NIV or intubation
Looking for flapping tremor of CO ₂ retention	SpO ₂ < 80%
Do not confuse metabolic and respiratory acidosis	pH on ABG < 7.2



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BI-LEVEL NON-INVASIVE VENTILATION (NIV)

This is an aerosol generating procedure (AGP).
Perform in a negative pressure room or closed door room. Staff PPE as per Oxygen Delivery Devices Policy.

INDICATIONS: MUST MEET ALL	REQUIREMENTS: ADDRESS ALL
<input type="checkbox"/> Acute type 2 respiratory failure <input type="checkbox"/> GCS > 8 <input type="checkbox"/> Has had 1 hour on controlled oxygen or overwhelming clinician concern <input type="checkbox"/> Appropriate initial therapy <i>Bronchodilators / steroids / antibiotics</i> <input type="checkbox"/> CXR confirms no pneumothorax or LVF	<input type="checkbox"/> Is NIV appropriate for this patient? <i>i.e not end stage cancer or other imminent end of life process. Discuss this with the patient and their whānau.</i> <input type="checkbox"/> Document a plan in case the NIV fails - <i>Escalation of care to HDU / ICU or ward ceiling of care.</i> <input type="checkbox"/> Document resus status <input type="checkbox"/> Check for previous NIV Bi-level settings: <i>Clinical portal > Alert > Management plan > NIV summary</i>

START NIV - Initial settings guide and checklist. See card on machine for correct set up advice

<input type="checkbox"/> NIV machine set up as per swing tag instructions	<input type="checkbox"/> IPAP 13 cm / H ₂ O EPAP 5 cm / H ₂ O.
<input type="checkbox"/> Safety checks performed	<input type="checkbox"/> Back up rate: 14
<input type="checkbox"/> Suitable mask size for this patient	<input type="checkbox"/> All oxygen tubing and connections checked
<input type="checkbox"/> Oxygen and Bi-level ventilation prescribed	

NIV PRESCRIPTION: To be completed by the treating clinician. Aim for tidal volume (TV) 6-8 mL / kg

Date	IPAP	EPAP	Back-up rate	Rise time	i time	Clinician name	Clinician
			14	1.0 s	1.0		

ARTERIAL BLOOD GAS Repeat Q 1-2 hourly. Document results on page 3

Acidosis improving

Acidosis unchanged or worsening

Continue medical therapy
 Refer Respiratory team

Review mask fit, leak and compliance
 Review ventilation pressures ; are they appropriate for the patient's weight? *Aim for tidal volumes of 6 - 8mL / kg*
 Increase IPAP by 2 cm H₂O at a time. Ensure that the pressure support (difference between IPAP and EPAP) increases.
See Bi-level policy Resp CeDS.
 Discuss with ICU / Resp SMO
 Repeat ABG within 1 - 2 hrs
 Continue to monitor ABGs and review ventilation
 Failure to improve despite above: Consider palliation / escalation of care to ICU / stay in resus if appropriate

TRANSFER TO WARD 10 ONCE ALL THE CRITERIA ON PAGE 4 ARE MET

COPD BI-LEVEL VENTILATION PATHWAY & CHECKLIST



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TRANSFER TO WARD 10 ONCE ALL THESE CRITERIA ARE MET:

- Patient has been stable for at least 1 hour *Patient suitable for hourly observations or less frequently*
- Patient requiring bronchodilators via inhaler with spacer no more than 2 hrly
- Clinical plan documented *Including plan for deterioration* & CPR / Resus status documented
- Handover to ward completed

WAITAKERE PATIENTS

- All patients meeting criteria for ongoing Bi-level NIV to be transferred to NSH, unless they are for palliation (stay at WTH) or intubation (i.e too unstable to transfer).
Oxygen delivery during transport: Refer to Oxygen Delivery Policy.
All blue stream, and Lilac stream patients with pending NPS, not to transported on NIV (AGP)

FORMULARY

CHECK ALLERGY STATUS AND SEE MEDSAFE OR OTHER TEXT FOR FULL LIST OF CONTRAINDICATIONS**

ALL MEDICATIONS MUST BE CHARTED ON MEDCHART

Medication	Dose	Route	Freq	Notes
Salbutamol	6 puffs	Spacer	Q 4hrly regularly	<i>Standing order Spacer preferred Do not nebulise unless absolutely necessary</i>
Salbutamol	6 puffs	Spacer	Q 20mins PRN	<i>Additionally to the above: For acute severe exacerbations</i>
Ipratropium Bromide	6 puffs	Spacer	Q 6 hrly	<i>Standing order Spacer preferred Do not nebulise unless absolutely necessary</i>
Prednisone	40 mg	PO	Stat	<i>Standing Order Unless unable to swallow</i>
Prednisone	40 mg	PO	OD x 5 days	<i>Gen Med / Resp to prescribe</i>
Hydrocortisone	200 mg	IV	Stat	<i>If unable to swallow, very unwell.</i>
Hydrocortisone	100 mg	IV	Q 8 hrly	<i>After the initial dose. Gen Med/Resp to prescribe.</i>
Antibiotics				<i>WDHB Antibiotic guidelines</i>
Oxygen				<i>Prescribe on Medchart per delivery device</i>

ONGOING WARD MANAGEMENT FOR ALL PATIENTS WITH COPD

- Steroids: Prednisone 40 mg OD x 5 days
- Change antibiotics as per WDHB antimicrobial guidelines or ID advice
- Review respiratory panel
- Sputum MC&S if productive cough
- Continue to give bronchodilators via spacer device
- Physiotherapist for breathing technique, sputum clearance and early mobilisation
- High Energy Protein (HEP) diet.
- Refer to Respiratory CNS ext 42731 for review pre-discharge if possible

DISCHARGE PLANNING

- Oxygen alert card with target range *via respiratory CNS or ward based respiratory box*
- Advance Care Planning
- If not Respiratory CNS review pre-discharge please refer for Respiratory CNS outpatient clinic in 4-6 weeks