



All Wales Acute NIV Guideline

Time (hours)

0

1

2

3

4

Clinical Pathway

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STEP 1: DIAGNOSIS AND ASSESSMENT

1. Confirmed acute respiratory acidosis ($\text{pH} < 7.35$, $\text{PCO}_2 > 6.5$ kPa)
2. Document ceilings of care ⁱ
3. Contra-indications ⁱ

STEP 2: INITIAL MANAGEMENT

1. Controlled oxygen therapy: FiO_2 to keep saturations 88-92% throughout
2. Nebulisers/chest physiotherapy/steroids/antibiotics if indicated (mainly COPD group)

Repeat ABG
 $\text{pCO}_2 > 6.5$ kPa
 $\text{pH} < 7.25$

Repeat ABG
 $\text{pCO}_2 > 6.5$ kPa
 $\text{pH} 7.25-7.35$

Setup MAU/AE
Discussion with ITU
if suitable (escalation
categories 1 or 2)

Setup MAU/AE
Transfer to appropriate
local area

STEP 3: TREATMENT

COPD/chest wall/
bronchiectasis

Neuromuscular

Obesity/obesity +
Other (overlap)

STARTING
PRESSURES

IPAP 15
EPAP 4

IPAP 8
EPAP 4

IPAP 15
EPAP 6

ⁱ AIM TARGET
PRESSURES
1ST HOUR

IPAP 20-25
EPAP 4

IPAP 10
EPAP 4

IPAP 20-25
EPAP 8

Recheck ABG after 1 hour (30mins with neuromuscular),
check mask fit, synchronisation. If $\text{pH} < 7.35$,
increase pressures to target below

AIM TARGET
PRESSURES
2ND HOUR

IPAP 25-30
EPAP 4

IPAP 12
EPAP 4

IPAP 25-30
EPAP 8

ⁱ AIM TARGET
PRESSURES
3RD HOUR

IPAP 30
EPAP 4

IPAP 16
EPAP 4

IPAP 30+
EPAP 8

STEP 4: REFER

Failure to correct pH after 3 hours with adequate pressures needs ITU referral
or earlier if pH or clinical state deteriorating

STEP 1 INFORMATION: ASSESSMENT

ⁱ Documentation of care decisions:

1. Requires immediate intubation + ventilation
2. Suitable for NIV and escalation to ITU/intubation
3. Suitable for NIV, but not ITU/intubation
4. Not suitable for NIV, but for full active medical treatment
5. Palliative care

ⁱ Contra-indications to NIV

Absolute

- Vomiting
- Facial burns/trauma/recent surgery
- Fixed upper airways obstruction
- Undrained pneumothorax

Relative (see care decision)

- Life threatening hypoxaemia
- Severe co-morbidity
- Confusion/agitation
- Inability to protect airway
- Haemodynamically unstable
- Copious secretions

STEP 2 INFORMATION: INITIAL MANAGEMENT

ⁱ Setup MAU/AE

Use Full face Mask. A good fit is crucial to effective NIV

STEP 3 INFORMATION: TREATMENT

ⁱ Aim target pressure 1st hour

Increase pressures by 2cm H_2O every 10 minutes, except neuromuscular by 1cm

ⁱ Aim target pressures 3rd hour

3 hour target pressures are dependant on toleration of NIV. Check mask fit and synchronisation