Acute hypercapnic respiratory failure (AHRF) is defined by a $pO_2 < 8 \text{ kPa}$, $pH < 7.35$ and $pCO_2 > 6.5 \text{ kPa}$

**Background of asthma or evidence of pneumonia and no underlying Respiratory disease?**
- Consider immediate invasive ventilation. Call ICU

**pH < 7.35 and $pCO_2 > 6.5$ and history of COPD or bronchiectasis or chest wall deformity**
- Or
- **pH > 7.35 and $pCO_2 > 6.5$ with a background of neuromuscular disease or obesity**
- Or
- **Known or probable OHS/OSA daytime $pCO_2 > 6.0$ and somnolent**

**Repeat ABG shows acute hypercapnic respiratory failure?**
- $pH \quad pCO_2 \quad pO_2 \quad HCO_3$
- spO$_2 \quad FiO_2 \quad$ Date: _______ Time: ______

**What is the diagnosis?**
- COPD (AHRF, not ITU candidate)
- Definite or possible OSA/OHS (AHRF and somnolent)
- Spine/chest wall deformity (acidotic AHRF)
- Neuromuscular disease (hypercapnia)

**Contraindications?** (see page 4)

- Y / N

**Patient for NIV? Y / N**
- Name ____________ Signed ____________
- Time _______ Date_______

**Acknowledgements:** Sherwood Forest Hospitals NHS Foundation Trust
Starting patients on NIV

**Call hot week Respiratory consultant between 9-5 on weekdays with the following information: (Edit as required)**

- Arterial or capillary blood gas result taken within the last 30 minutes
- Recent CXR (taken during current admission)
- Recent inflammatory markers (taken during current admission)
- Previous spirometry

**If accepted or out of hours call on call Medical SpR (Edit as required)**

**NIV settings**

Starting pressures 12/5
Own domiciliary NIV settings _____ / ______
Target pressures 20/5
Other _____ / ______

Maximum IPAP should be titrated against tolerability. Patients with neuromuscular disease or frail patients may require lower IPAP.

Signed __________________ Name ____________________ Time ______________ Date_____________

**Escalation and Handover**

ITU candidate if NIV fails? □
Plan discussed with patient and/or relatives? □
NIV ceiling of care? □
AND completed Y / N

Signed __________________ Name ____________________ Time ______________ Date_____________

Repeat ABG shows improvement or resolution of AHRF?
Continue current treatment and repeat ABG at 4 + 12 hrs

Repeat ABG shows no improvement or deterioration?
- Refer to seniors
- Refer to ICU if appropriate
- Check pressures/target SaO₂
- Check medical management prescribed
- Consider physiotherapy
- Check synchronisation/mask leak
- Review NIV trouble shooting guide

Repeat ABG at 4 hr
pH _______ pCO₂_____ pO₂_______
HCO₃_______ spO₂_______ FiO₂________
Date:_________ Time:_____
Perform ABG at 1, 4, 12 and 24 hours after starting NIV to determine if the patient is improving.