Brighton and Sussex University Hospitals

The use of Home Non-Invasive Ventilation for

chronic hypercapnic respiratory failure: Pathway for set-up after Acute admission for NIV in the adult patient.

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Division	Speciality Medicine
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Target audience	Clinical Staff

1. Introduction:

This pathway is for use by clinical staff, both in the acute setting and the home non-invasive ventilation (H-NIV) service to guide the follow up of patients admitted for acute NIV who require follow up in the respiratory clinic and consideration for set-up of H-NIV.

2. Background:

In UHSx (east) area, patients requiring H-NIV, are required to be referred to the Lane Fox Unit in London (or the Royal Brompton Hospital, London) for set-up and management.

For those patients being set up whilst inpatients, this means that they are set-up either remotely by the Lane Fox Unit (or occasionally Royal Brompton Hospital, London) or they are transferred to London for an in-patient set-up.

As a consequence, there is a considerable delay in discharge, impacting not only on the patient's overall experience and wellbeing, but also on the hospital's patient flow.

Therefore, the aim of the H-NIV service is to fill the gap in this service, improving patient's experience of the service, reducing hospital stay and risk of any iatrogenic health related problems, such as hospital acquired infection. In addition, its implementation will improve patient flow throughout the hospital, reducing length of stay considerably.

3. Purpose

The purpose of this pathway is to standardise care in the management of patients presenting with acute hypercapnia with signs of academia, with a background of the following conditions:

- Hypercapnic COPD
- Obesity hypoventilation syndrome (OHS)
- Obstructive sleep apnoea (OSA) overlap with OHS.
- Chest wall disorders

The service will not include complex ventilation cases at present. **Patients requiring NIV with a diagnosis of neuromuscular disorders or who require ventilation through tracheostomy will continue to be referred to the Lane Fox unit or the Royal Brompton Hospital, London.**

4. Considerations prior to NIV therapy

- NIV can be used in patients with chest wall deformity without hypercapnia
- NIV should not be used in pneumonia
- NIV can be used in cardiogenic pulmonary oedema where CPAP has failed
- NIV must be commenced within 1 hour of an ABG demonstrating acute hypercapnic ventilator failure
- The NIV prescription MUST be completed before a patient is commenced on NIV
- Follow-up must be arranged as per home NIV pathway UH East Sussex.

- Staffing: a nursing staff ratio of 1:2 should be used during the first 24 hours of a patient being commenced on NIV and should be continued until the patient is clinically stable and has commenced weaning from NIV (BTS, 2016).

5. Definitions

Respiratory failure occurs when there is inadequate gas exchange (either oxygen uptake or carbon dioxide removal or both) between the lungs and blood stream.

Hypercapnia is the increase in carbon dioxide levels in arterial blood.

Hypoxaemia is the decrease in oxygen level in arterial blood.

Non-invasive ventilation (NIV) is the provision of ventilatory support through a patient's upper airway using a mask or similar device.

6. Identification of patients suitable for H-NIV.

The H-NIV service in UHSx (East) will be targeting patients with non-complex chronic hypercapnic respiratory failure. The main medical conditions will be:

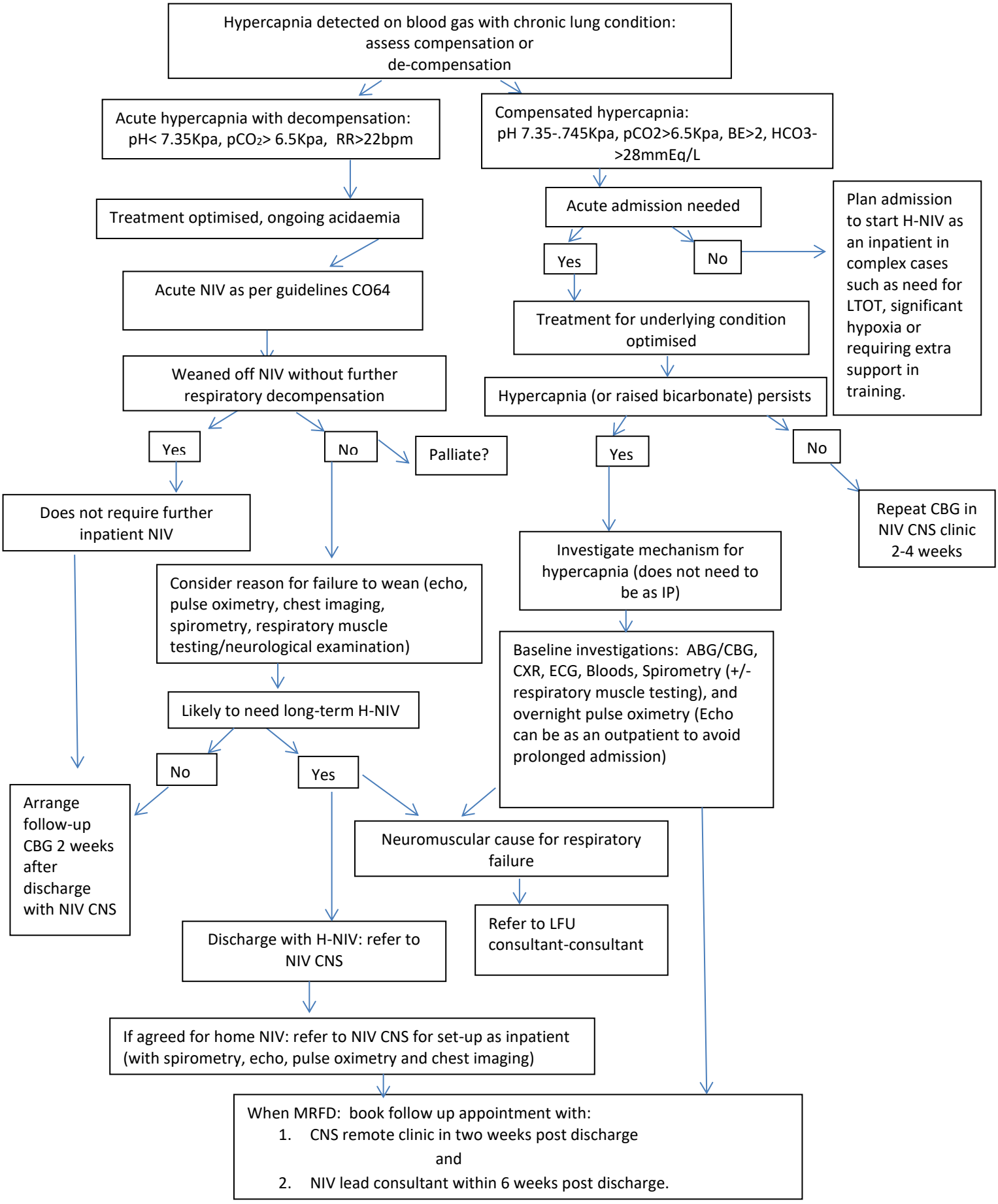
- Chronic Obstructive Pulmonary Disease (COPD)
- Obesity Hypoventilation with or without Obstructive sleep apnoea.
- Chest wall disorders

The service will also be supporting patients as they come in with acute hypercapnic respiratory failure and are identified as benefiting from potential long-term H-NIV.

7. Links to other Trust documents

Management of Medical Devices training C001
Mental Capacity Act Policy
Infection control
NIV pathway for UHS East sites 2022: Initial Assessment for Non-Invasive Ventilation.
Acute NIV policy C064.
H-NIV pathway for outpatient set-up and monitoring of adult patient.

9. H-NIV set-up pathway after acute admission



Additional information:

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