Mid Essex Hospital Services
NHS Trust

Non-Invasive Ventilation (NIV) and Continuous Positive Airways Pressure (CPAP) in Adults	**Type: Clinical Guidelines** **Register No: 10061** **Status: Public**

Developed in response to:	Requirement for an NIV and CPAP service
Contributes to CQC Outcome	Outcome 4

Consulted With	**Post/Committee/Group**	**Date**
Dr Chris Westall	Acute Medical and Intensive Care Consultant	July 2018
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Professionally Approved By Dr H S Jenkins	Consultant Respiratory Physician	July 2018

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Author/Contact for Information	Lisa Savage NIV Nurse Facilitator, updates by Sally Gibson/Claire Booth Advanced Physiotherapists
Policy to be followed by (target staff)	Nursing, Therapy & Medical Staff using & supporting NIV
Distribution Method	Intranet & Website
Related Trust Policies (to be read in conjunction with)	Infection Prevention Policies

Document Review History

Version No	**Reviewed by**	**Active Date**
1.0	Mandy Lewis, NIV Nurse Facilitator	July 2011
2.0	Lisa Savage	July 2013
3.0	Mandy Lewis	November 2013
3.1	Lisa Savage paras 5.7-5.11 6.5	September 2014
3.2	Lisa Savage paras 5.1-11 5.15 5.20	Nov 2015
4.0	Sally Gibson & Claire Booth, Band 7 Physiotherapists	30 August 2018

Contents

1.0 Purpose

1.1 This policy outlines the expected standard of care for all adult patients (over the age of 18 years) receiving Non Invasive Ventilation (NIV) across Mid Essex Hospital Services NHS Trust.
Designated areas for NIV are A&E Resus, GHDU, ITU and the Respiratory (Felsted) Ward.

2.0 Definitions

2.1 **Non Invasive Ventilation** – Ventilation using a mask on the face to deliver set flows of air under pressure to the spontaneously breathing patient for therapeutic reasons. This term covers both CPAP and BiPAP.

2.2 **CPAP (Continuous Positive Airways Pressure)** – is the use of a single positive airway pressure applied throughout the respiratory cycle.

2.3 **BiPAP (Bi Level Positive Airways Pressure)** – is the use of two set positive airway pressures that alternate during the respiratory cycle.

3.0 Scope of the Policy

3.1 This policy applies to all adult patients (over the age of 18 years) admitted to Mid Essex Hospital Services. Children are excluded.

3.2 All Healthcare Professionals working within the Trust undertaking NIV (BiPAP or CPAP) are expected to work within this policy. This includes all Medical Staff, all Registered Nurses, Healthcare Assistants (HCA), Student Nurses, Therapy Services and Clinical Technicians.

4.0 Staff Training

4.1 All staff undertaking NIV will attend a study session run by the NIV Facilitator.

4.2 The NIV Facilitator will provide continued education; support and advice.

4.3 All staff undertaking NIV will complete NIV competencies.

4.4 All staff will complete a C.N.S.T. for V60 or Focus ventilator.

5.0 Policy

5.1 Designated areas for NIV are A&E Resus, ITU, GHDU and the Respiratory (Felsted) Ward.

5.2 Patients identified for NIV using the NIV referral protocol (Appendix 1)

5.3 **If a Patient is for escalation, the ICU consultant needs to be made aware of this as soon as possible - Consultant to Consultant referral.** All other patients to be referred to the medical team.

5.4 NIV must be started for the patient as detailed in the Initiating BiPAP /CPAP flow charts. (Appendix 4)

5.5 Patients requiring CPAP should be referred to ICU only (Consultant to Consultant referral) and transferred to ICU or GHDU only.

5.6 The on call Physiotherapy team should only be called in for BiPAP (Appendix 3).

5.7 Focus Ventilators on the Respiratory Ward can only provide up to 40% oxygen (15 litres oxygen), therefore patients requiring more than this will need transferring to ICU/GHDU for NIV via V60 ventilators.

5.8 The Respiratory Ward has capacity for 3 Patients on Focus Ventilators. The Focus Ventilator cannot be removed from one Patient to another unless NIV has been stopped by a Senior Registrar/Consultant for the former Patient.

5.9 Patients requiring CPAP for sleep apnoea may be nursed on the Respiratory Ward.

5.10 If there is no availability of ventilator on the Respiratory Ward, patients will need referral to GHDU but with a completed Treatment Escalation Plan (TEP) in place.

5.11 The Clinician who sets up NIV is responsible for that patient and must remain with them until transfer to a designated NIV area or another MEHST NIV competent clinician takes over care. **If possible the patient should be transferred to a designated area prior to commencement of therapy to avoid clinical risk.**

5.12 The NIV service is supported by the on-call Physiotherapy Team and they can be contacted via switchboard 24 hours a day for referrals. **The Physiotherapist cannot be called in unless a designated destination of care is firmly decided and a TEP/NIV Prescription Form (Appendix 2) has been completed.**

5.13 The NIV Facilitator can also be contacted by switchboard or bleep for referrals in-hours on specific duty days # 6400 587.

5.14 The senior nurse in charge of ICU/GHDU and the Respiratory Ward may use their discretion to determine whether the on-call Physiotherapy Service is required. The Night co-ordinator will need to be informed before calling in Physiotherapy staff.

5.15 The areas identified for NIV must ensure that an adequate number of staff has received training and that accredited staff is available at all times.

5.16 **Patients who are admitted and NIV continued on their own machine must have continual oxygen saturation monitoring whilst on NIV when they are acutely ill and the NIV observation chart (Appendix 5) kept hourly.**

5.17 The NIV Prescription Form (Appendix 2) must be used for all patients receiving NIV outside of ICU/GHDU.

5.18 All outcomes of NIV must be documented in the patients' medical notes.

5.19 Patients on home ventilation NIV for sleep apnoea who are self-caring of their

Ventilator machine may be nursed in non-NIV designated areas if assessed as being at minimal risk.

5.20 **Patients who are not independent with their ventilator machine must be nursed on the Respiratory Ward or ICU/GHDU.** If their carers usually assist them with the mask and oxygen entrainment, this can be done after checking with the nurse in charge first.

5.21 Patients requiring sedation due to delirium on NIV must be nursed on ICU/GHDU.

5.22 Patients requiring NIV with a chest drain in-situ secondary to pneumothorax must be nursed on ICU/GHDU.

6.0 Equipment

6.1 The equipment required to carry out NIV referred to in this policy includes:

- NIV ventilator device (BiPAP® Focus™ system on the Respiratory Ward or V60 ventilator on GHDU and ITU)
- First line option is the Phillips PerforMax Disposable Full Face Mask – Large or XL
- Phillips Respironics Disposable oro-nasal Mask Small
- Phillips Respironics Disposable oro-nasal Mask Medium
- Phillips Respironics Disposable oro-nasal Mask Large
- Pulmodyne Max shield full face mask – GHDU & ITU only
- Pulmodyne Disposable Circuit with filter and O2 port (Focus)
- Pulmodyne disposable circuit with filter and sensor tubing (V60)
- Bacterial Filter, Low Resistant (for use on exhalation port in contagious disease)

6.2 NIV equipment is located in the Respiratory cupboard on Felsted Ward for use on Felsted Ward, and in the Respiratory cupboard on GHDU for GDHU.

6.3 Patients in ICU will receive NIV via the NIV equipment and consumables on ICU.

6.4 All Consumables can be sourced via NHS supplies for the Respiratory Ward, GHDU and ICU.

6.5 An agreed minimum holding stock of 10 masks and circuits per clinical area must be maintained to ensure stock available at all times from September to June, and at a minimum of 5 masks and circuits at other times.

6.6 CNST documentation (Equipment Competency Self Assessment Statement) will be completed by all staff using the BiPAP® Focus™ system and Philips V60 ventilator.

6.7 Consumables need to be replaced as per manufacturer's guidelines, mask and circuit every seven days.

7.0 Medical Records

7.1 All patients medical records will be managed confidentially at all times and stored securely.

7.2 All documentation relating to NIV must be filed within the patient's medical records when completely filled in or the patient no longer requires treatment; death or discharge.

7.2 All movement of patient records will be accurately tracked in accordance with the Trust's Case note Tracking Policy

8.0 Audit

8.1 Compliance with this policy will be audited annually by the NIV Facilitator. The on-call Physiotherapy Service will assist with audit. This will include gathering information regarding call outs and number of patients on NIV. Any issues will be escalated to Clinical Directors and Divisional Managers for action.

8.2 This policy will be reviewed annually by the NIV Facilitator to recommend and implement changes / improvements where necessary.

8.3 Any instances of non-compliance with this policy should be raised with the NIV Facilitator and recorded as a Datix if necessary.

9.0 Communication & Implementation

9.1 The policy will be made available on the Trust's intranet & website by Governance. The NIV Nurse Facilitator will be responsible for issuing copies to all senior managers, general managers and ward sisters for dissemination within their departments.

9.2 The approved policy will be notified in the Trust's Staff Focus that is sent via e-mail to all staff.

10.0 References

British Thoracic Society (2016). BTS/ICS Guidelines for the Ventilatory Management of Acute Hypercapnic Respiratory Failure in Adults.

Esmond G, Mikelsons C (2009). Non-Invasive Respiratory Support Techniques: Oxygen Therapy, Non-Invasive Ventilation and CPAP. Wiley-Blackwell.

National Confidential Enquiry into Patient Outcome and Death – Inspiring Change – Acute Non-Invasive Ventilation (July 2017)

Appendix 1 NIV Referral Protocol

NIV Referral Protocol.doc

Appendix 2 NIV Prescription Form

NIV Prescription Form.doc

Appendix 3 NIV Physiotherapy Call Out Checklist

NIV Physiotherapy Call Out Checklist.doc

Appendix 4 Initiating BiPAP and CPAP Flow Charts

Initiating BiPAPTherapy Flow C

Initiating CPAP flow chart.doc

Appendix 5 NIV Continuation Obs Chart and NIV Communication & Progress

NIV Continuation obs chart.doc

NIV Communication sheet.doc

Appendix 6 NCEPOD Audit Tool

NCEPOD NIV audit Tool - Blank.xlsx