

Operational and Admission Policy for the Respiratory Wards, including Admission into Respiratory High Care Areas (Respiratory High Care and Marlow Unit)

Department / Service:	Respiratory Medicine
Originator:	Dr Clare Hooper Respiratory Consultant
Accountable Director:	
Approved by:	Divisional Management Board
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Target Organisation(s)	Worcestershire Acute Hospitals NHS Trust
Target Departments	Respiratory Medicine
Target staff categories	Medical doctors Respiratory physiotherapists Nursing staff Bed managers

Policy Overview:

This document outlines the anticipated working practices for the respiratory wards within Worcestershire Acute Hospital Trust; ARU and Ward 5, which include Non-Invasive Ventilation (NIV) and COVID CPAP beds within Respiratory High Care and Marlow Unit respectively. ARU is located on the ground floor of Worcestershire Royal Hospital. Ward 5 is located on the ground floor of Alexandra Hospital, Redditch.

This guideline is for use by the following staff groups:

Medical doctors
Respiratory physiotherapists
Nursing staff
Bed managers

Date	Amendment	Approved by:
June 2024	New Document – Full overhaul of policy	Divisional Management Board

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Patients appropriate for (non COVID) High Care Unit beds:

- Patients with acute respiratory failure requiring NIV, whose pH is > 7.25 (as per NIV guidelines, waht-RES-004), including patients with *known chronic* neurological conditions.
- Patients stepping down from Level 2 critical care (ICU); who still require close respiratory monitoring or NIV.
- Patients requiring Humidified High Flow Nasal Cannula (HHFNC) therapy over 40%.
- Patients recently thrombolysed for pulmonary embolus or with stable massive or sub-massive pulmonary embolus, not requiring ICU support where a CCU bed is unavailable or there are high oxygen requirements.
- Patients presenting with an acute severe or life-threatening asthma attack who are failing to respond to therapy, **only after assessment by ICU. NIV should only be considered in an ICU or equivalent clinical setting.**
- Patients with a chest drain in situ who are unstable or would be unstable if the drain was dislodged.
- Admission to the Respiratory High Care Unit (including ICU step down) must not take place until **after appropriate discussion and in liaison** with the senior nurse in charge. Patients should be discussed with the respiratory Registrar or ward consultant when available and the ward medical Registrar out of hours before transfer.
- The duty bed manager should be informed of the requirement for a Respiratory High Care Unit bed for NIV and imminent transfer, in order to ensure a bed is made available.
- NIV should not be initiated outside the High Care Unit, other than for patients in A&E resus when a high care bed has not been successfully ring-fenced and initiation is clinically urgent.

Patients appropriate for COVID CPAP beds

ARU retains a 4 bedded bay and Ward 5, 2 side rooms which can be converted for the safe provision of CPAP to patients with severe COVID pneumonitis, isolated from non-COVID patients. These areas cannot be ring fenced such that transfer of stable non COVID patients out of ARU/ ward 5 is required before admitting the first COVID CPAP patient in a cluster. Transfer of the following patient groups to the bay/side rooms may be appropriate in discussion with the Respiratory Registrar or ward Consultant (ward medical Registrar out of hours):

- Hypoxia, confirmed on both PCR and chest X-ray or CT thorax, to be due to severe COVID pneumonitis, in a patient requiring $\geq 40\%$ FI_{O2} via venturi mask to keep Oxygen sats $\geq 94\%$, who has a Rockwood frailty score of ≤ 5 , and no contraindication for COVID CPAP.
- Patients who would be ITU candidates if they deteriorate on CPAP, should be referred for an ITU opinion in parallel with requesting an ARU COVID CPAP bed,

and should be transferred to ITU preferentially if there will be a delay in ARU bed availability.

1. Introduction

This document outlines the anticipated working practices for the respiratory wards within Worcestershire Acute Hospitals NHS Trust; ARU and Ward 5, which include Non-Invasive Ventilation (NIV) beds within Respiratory High Care (RHC) and Marlow Unit respectively. These respiratory high care NIV facilities will be referred to as “High Care Units” throughout this document. ARU is located on the ground floor of Worcestershire Royal Hospital (WRH). Ward 5 is located on the ground floor of Alexandra Hospital, Redditch.

ARU is a 31 bedded facility which includes 8 Respiratory High Care beds (in two four bedded mixed sex bays) and one four bedded bay (mixed sex) that has facilities to be converted to accommodate 4 COVID CPAP patients. Ward 5 is a 26 bedded facility which includes the Marlow unit, 4 RHC beds (one four bedded mixed sex bay).

ARU and Ward 5 general respiratory beds provide high quality care to patients with respiratory, requiring Level 0 or 1 care, who meet the criteria set out in this operational policy.

The Respiratory High Care Units provide high level acute care to male and female adult patients who require specialist respiratory, medical and nursing input and the use of specialised equipment, such as NIV. ***These units are not resourced or staffed to safely provide Level 2 care.***

2. Scope of this document

This document outlines the anticipated working practices of the respiratory wards, including the Respiratory High Care Units and guidance criteria for admission into the respiratory ward.

Guidelines for the use of NIV in the management of acute type II respiratory failure can be found in document WHAT- RES- 004.

Guidelines for Critical Care Outreach and definitions for the assessment of “required level of care” can be found in document WAHT- KD - 022 [Appendix 1].

Guidelines for national standards for Respiratory Support Units have been published by the British Thoracic Society in 2021 and are available via the following link: [Respiratory Support Units Guidance on development and implementation.pdf](#)

3. Definitions

- High Care Unit: ARU Respiratory High Care and Alexandra Marlow Unit
- RHC: Respiratory High Care
- ICU: Intensive Care Unit

- ABG: Arterial blood gas
- NIV: Non-invasive ventilation
- IPAP: Inspiratory Positive Airway Pressure
- EPAP: Expiratory Positive Airway Pressure
- CPAP: Continuous Positive Airway Pressure
- CURB: Pneumonia risk stratification scoring system; **C**onfusion, **B**lood **U**rea, **R**espiratory rate, **S**ystolic **B**P
- HOOFF: Home Oxygen Order Form
- FVC: Forced Vital Capacity
- FiO₂: fractional inspired oxygen (or percentage oxygen)
- HHNC: Humidified High Flow Nasal Cannula
- MAU/AMU: Medical Admission Unit
- A&E: Accident and Emergency
- EDS: Electronic Discharge Summary
- BTS/SIGN: British Thoracic Society/Scottish Intercollegiate Guidelines Network

4. Responsibility and Duties

Matrons and ward managers are responsible for:

- Implementing this policy within clinical areas
- Investigating any incidents related to the use of this policy

The wards will remain open and operational 24 hours every day throughout the year.

When admission to the ward is required we will endeavor to ensure that the length of stay is minimized, whilst delivering safe and effective care. The ward will support the Trust in delivering the organizational objectives relating to respiratory care services.

All members of staff are responsible for ensuring their practice complies with this policy. The respiratory team is responsible for keeping up-to-date with current research and best practice and disseminating the information.

At the time of publication clinical lead for ARU is Dr Clare Hooper and for the Worcester Royal Hospital based NIV service, Dr Andrew Crawford. The clinical lead for Ward 5 is Dr Abhi Lal. There is a named Respiratory consultant of the week for each of the respiratory wards and an acute medical on call rota is in operation 24/7 for out of hours advice.

5. Policy Details

Key Principles

The respiratory ward will accept patients over 16 years* of age presenting with respiratory conditions for assessment, investigation and diagnosis, in relation to the most appropriate plan of care and treatment. Patients will be accepted for acute, chronic and palliative management of respiratory conditions.

(*NB patients that are 16 and 17 years of age will be managed with adherence to the Trust policies on Safeguarding)

Objectives

- Deliver and maintain high quality, safe and effective patient care
- Respect patients' rights to autonomy, privacy and dignity
- Benefit patients and minimise the risk of harm
- Provide fair access to all patients
- Maintain a safe, comfortable and clean environment for all patients and relatives.
- Implement relevant Trust policies and protocols to practice evidence-based medicine
- Operate using a multi-disciplinary team approach to facilitate early safe
- Maintain support for staff, including providing an acceptable working environment and facilities, opportunity for professional development and a supportive team environment
- Maintain staffing at safe and appropriate levels
- Meet educational needs for staff and trainees and for the wider health community
- Reliably collect data about all aspects of care to demonstrate, in a way that would support external review, that we are delivering care to the highest standards.

Benefits

The provision of focused acute respiratory high care within a specialist ward brings with it an opportunity to establish a new way of working. This will particularly reflect the Trust's priorities as below:

- improve patient flow through the hospital system
- reduce length of stay for inpatients
- reduce readmission rates
- provide consistent single sex accommodation for patients, where possible
- provide specialist acute respiratory medical and nursing care
- establish a multidisciplinary team approach to caring for patients in a holistic manner
- maintain training in specialist respiratory care and competencies of staff working on the ward

a/. Admission Procedure

1/. Transfer of a respiratory case, as described below, should take priority over any non-respiratory internal medical transfer into an ARU or Ward 5 bed.

When cases requiring respiratory ward beds are identified by the respiratory team in the process of in-reach and referrals ward rounds, delays and blocks to timely admission to respiratory wards will be recorded and respiratory input will be provided away from respiratory wards when medical respiratory team staffing levels allow for this, but is often limited due to workload on ARU and ward 5 making transfer of patients to the correct ward important for patient safety.

2/. An empty RHC bed will be maintained on ARU and the Marlow unit when there is no suitable RHC patient to fill it, in order to transfer patients requiring urgent respiratory support from ED and other ward areas in a clinically safe timescale. When the ring fenced RHC bed is occupied by an inappropriate patient, or there is a delay of more than 1 hour in admission of a patient requiring acute NIV, it will be recorded via the DATIX system and the process leading to the incident examined.

3/. Admission to a RHC bed is only to occur after discussion with the appropriate respiratory consultant, registrar or ward nurse in charge, (whichever is available at the time of transfer) and the ward medical registrar should be informed of all new admissions to RHC beds out of hours.

4/. Pregnant women **will not** be admitted to the High Care Unit and should be referred to the Intensive Care Unit (ICU) if respiratory support is required.

i. Admission Criteria to General Respiratory ward beds:

Priority will be given to the following groups of acutely unwell respiratory patients, requiring Level 0 or 1 specialist respiratory care, from the MAU, A&E, other hospital wards or other trusts:

- All patients requiring chest tube insertion, for a non-traumatic indication, must be managed on the respiratory ward (high care or non-high care bed depending on patient stability and ward case mix) and receive priority transfer.
- Patients with confirmed pleural infection; to ensure appropriate drainage and timely referral to thoracic surgeons if required.
- Patients stepping down from Level 2 critical care (ICU); who do not require the medical or nursing input provided by High Care Unit, but have specialist respiratory nursing requirements (see section ii).
- Patients with any feature of an acute severe asthma attack persisting after initial treatment (see section ii below for life-threatening or near fatal asthma attack)
- Patients usually on domiciliary (home) NIV machines admitted to hospital with a respiratory presentation or deterioration (patients on home CPAP do not need a

respiratory ward admission unless they fulfill one of the other admission criteria). See appendix 2 for detailed guidance.

- Pulmonary fibrosis patients on long term oxygen therapy, admitted with an exacerbation or increased oxygen requirement, to ensure appropriate oxygen assessment and HOOF prescription before discharge.
- Moderate-Severe (CURB ≥ 2) pneumonia
- Patients with an exacerbation of bronchiectasis requiring inpatient IV antibiotics
- Patients with lung cancer with complications that require inpatient management (eg large volume haemoptysis, pleural effusion, airway compromise, superior vena cava obstruction)

ii. Admission Criteria to Respiratory High Care Unit beds:

There are 2 four-bedded mixed sex bays on ARU, and 1 four-bedded mixed sex bay on Ward 5 (Marlow Unit), providing level 1 specialist Respiratory Support Unit Care

Patients appropriate for High Care Unit beds include:

- Patients with acute respiratory failure requiring NIV, whose pH is > 7.25 (as per NIV guidelines, waht-RES-004), including patients with *known chronic* neurological conditions.
- Patients stepping down from Level 2 critical care (ICU); who still require close respiratory monitoring or NIV.
- Patients requiring Humidified High Flow Nasal Cannula (HHNC) therapy over 40%.
- Patients recently thrombolysed for pulmonary embolus or with stable massive or submassive pulmonary embolus, not requiring ICU support where a CCU bed is unavailable or there are high oxygen requirements.
- Patients presenting with an acute severe or life-threatening asthma attack who are failing to respond to therapy, **only after assessment by ICU. NIV should only be considered in an ICU or equivalent clinical setting**.
- Patients with a chest drain in situ who are unstable or would be unstable if the drain was dislodged.

Patients who are inappropriate for Respiratory High Care Unit beds:

- Patients requiring Level 2 care or above; excluding those patients on NIV with clear documentation of "NIV ceiling of care" (as per NIV guidelines WAHT-RES-004).
- Patients requiring NIV whose pH is < 7.25 , unless this has been discussed and accepted by the respiratory registrar, medical on call registrar or consultant (as per NIV guidelines WAHT-RES_004).

- Patients with an **acute progressive neurological presentation** requiring close monitoring, including regular spirometry (FVC) measurements or respiratory support (including NIV). These patients should be reviewed and managed by critical care (ICU and Critical Care Outreach).
- Patients with tracheostomy tubes who still require supported ventilation.
- Patients with a double lumen or fenestrated tracheotomy tubes who do not require a weaning protocol or NIV support (*see Management of patients with tracheostomy tubes in Worcestershire Acute Trust policy waht-KD-022*).
- Patients requiring any non-respiratory organ support or with non-respiratory monitoring requirements. These patients should be referred to ICU.
- Pre or post operative patients requiring pre-op optimisation, or in respiratory failure due to the complications of surgery, anaesthesia or post-op analgesia. These patients should be referred to ICU and the anaesthetic team.

iii. Admission procedure to Respiratory High Care Unit in the event of requiring NIV.

The High Care Units will receive admissions directly from Emergency Department (E/D) and Medical Admissions Unit (MAU, AMU). Admission to the High Care Unit for NIV (including ICU step down) must not take place until **after appropriate discussion and in liaison** with the senior nurse in charge on ARU or Ward 5.

All patients must have a COVID and influenza PCR sent with urgency at the time of requesting NIV, but the result will not be awaited before transfer to ARU or Ward 5. COVID lateral flow tests will be done at time of initiation of NIV when available. Patients with infectious viruses will be cohorted when it is clinically safe to do so without delaying or compromising their medical care.

During normal working hours (9am - 5pm Mon- Fri and 9am -2pm Saturday at WRH, Sat and Sun AGH) the case should be discussed with either the respiratory registrar or if unavailable, the respiratory consultant covering High Care Unit that week (identified by phoning ARU or ward 5)

Out of hours, there will be an on-site on call ward medical registrar supported by the oncall medical consultant to provide advice.

The duty bed manager should be informed of the requirement for a High Care Unit bed for NIV and imminent transfer, in order to ensure a bed is made available.

Patients with acute respiratory failure should be assessed according to the local guidelines (*waht-RES-004*). **All patients must have an NIV proforma** [*Appendix 3*] completed prior to referral to the physiotherapy team at WRH or nursing team at the Alexandra Hospital, for commencement of NIV.

There must be **clear documentation** around the treatment plan and ceiling of care, prior to commencement of NIV (*as per Trust guidelines and NIV proforma*). Appropriate discussions with the patient and family, regarding ceiling of treatment and resuscitation status (including RESPECT forms), should be carried out and documented, where possible, before transfer.

Once patients are stable and have been accepted by the senior nurse in charge of the High Care Unit, they should be transferred directly to the Unit.

NIV should not be initiated outside the Respiratory High Care Unit, other than for patients in A&E resus and ICU. The only exception to this would be if all High Care Unit beds are occupied by patients requiring acute NIV and no ICU beds on that site are available.

If all Respiratory High Care Unit beds are occupied, the most appropriate and stable patient should be stepped down into a *general respiratory ward* bed, to allow admission of an acute patient. This may require moving a more stable patient out of the respiratory ward, which should be supported by the bed and site management team as a priority. The decision to move patients out of RHC should be made by the consultant covering the unit during normal working hours (9am - 5pm) or the on-site on call medical registrar or consultant out of hours.

If step down from RHC is not possible and all RHC beds are clinically appropriately occupied, in normal working hours, the respiratory ward consultant will discuss the feasibility of temporary ITU admission of the most appropriate patient to ITU. Out of hours, the medical registrar or medical consultant will have the discussion.

In the event of problems with NIV machine capacity and demand, please refer to the *NIV Machine Capacity Emergency Protocol* [Appendix 4].

Admissions from other hospitals / trusts: Patients requiring transfer to the High Care Unit for local NIV should be discussed with and accepted by the respiratory registrar, consultant or on call medical registrar, and on liaison with ward staff and the bed manager the patient can be transferred when a suitable bed becomes available.

iv. Patients appropriate for COVID CPAP beds

ARU retains a 4 bedded bay and Ward 5, 2 side rooms which can be converted for the safe provision of CPAP to patients with severe COVID pneumonitis, isolated from non-COVID patients. These areas cannot be ring fenced such that transfer of stable non COVID patients out of ARU/ ward 5 is required before admitting the first COVID CPAP patient in a cluster. Transfer of the following patient groups to the bay/side rooms may be appropriate in discussion with the Respiratory Registrar or ward Consultant (ward medical Registrar out of hours):

- Hypoxia, confirmed on both PCR and chest X-ray or CT thorax to be due to severe COVID pneumonitis, in a patient requiring $\geq 40\%$ FI02 via venturi mask to keep Oxygen sats $\geq 94\%$, who has a Rockwood frailty score of ≤ 5 and no contraindication for COVID CPAP.
- Patients who would be ITU candidates if they deteriorate on CPAP should be referred for an ITU opinion in parallel with requesting an ARU COVID CPAP bed, and should be transferred to ITU preferentially if there will be a delay in ARU bed availability.

b/. Step down from High Care Unit

High Care Unit patients should be “stepped down” when no longer fulfilling the admission criteria for High Care Unit. They should be moved into a general respiratory ward bed on the respective respiratory ward. If a suitable respiratory bed is not available, another patient who does not require respiratory care should be moved out of the respiratory ward.

Patients admitted from another specialty ward for acute respiratory High Care treatment should be moved back to this ward, if appropriate, for further specialist care.

Patients from High Care Unit should not be outlied directly to other wards unless discussed with the respiratory medical team first and a plan for further NIV, if required, or readmission to High Care Unit is documented. Oxygen requirements and oxygen saturation target must be clearly documented and prescribed on the drug chart.

Patients that are identified to be able to step down from either of the respiratory high care areas on both sites, should move out within 6 hours, in order to not cause a mixed sex breach. In the case that this is not possible, it should be escalated to senior nursing and medical team, datix should be submitted and the patient should have a recording on OASIS.

c/. Discharge Process

The ward will comply with Trust policy in that planning for discharge will commence on initial assessment of the patient.

The electronic discharge summary (EDS) will be completed by the medical staff prior to the patient leaving the respiratory ward, especially if a High Care Unit admission has occurred.

The EDS should document the last blood gas taken prior to discharge (documented on air or FiO₂), use of NIV and highest IPAP/EPAP settings required. This process will be seen as a priority within the medical staff's workload to facilitate and maintain patient flow.

Should a patient require a follow-up clinic appointment, this must be documented on the EDS and booked through the established channels for each of the sub specialty clinics.

d/. Infection control and patient isolation

There are general principles to be adhered to within the Trusts Isolation and Bed Management Policy (WHAT-INF-045). If wards are unable to isolate due to clinical need and staffing does not allow to provide the correct level of care for the patient in side room then strict standard infection control or transmission based precautions should be adhered to and that clinical need will outweigh the IPC issues except where a high consequences infectious disease is present eg Viral Haemorrhagic fever. Please contact IPC and matron.

e. Procedures Rooms

The Procedures Room on ARU at WRH is used for performing aseptic procedures, such as chest drain insertion or therapeutic pleural aspiration and indwelling pleural catheter insertions for both inpatients and ambulatory day cases. It is in constant use as the main location for the nurse practitioner delivered ambulatory pleural service.

All procedures are recorded on a spreadsheet saved to the Respiratory department shared drive and day cases are recorded on oasis via the completion of a KMR form by the ARU ward administrator.

The cleaning and stocking process is detailed in appendix 5.

There is a dedicated procedure room on ward 5 for inpatient procedures. A paper log is maintained of procedures performed and the room is cleaned daily by the ward cleaning team with cleaning between patients performed by clinicians and nursing staff.

All pleural procedures are fully recorded on a LOCSSIPs reporting form.

f. Clinical Services

v. Medical Care

The consultant responsible for the ward patients at any one time is named according to an agreed rota, available both on the ward and via the secretaries in the respiratory department. This will be clearly documented in the electronic patient record and above the bed space.

All patients on the general respiratory ward will be reviewed by a doctor on a daily basis Monday to Saturday and according to clinical need on Sunday and bank holidays. Those identified as unstable will be seen first and once the most unwell patients have been seen the team will endeavor to support discharges as early in the day as possible.

All patients within the High Care Unit, meeting the above admission criteria, will be reviewed daily by a senior doctor (specialist registrar/ST3 or above). All reviews will be documented in the patients' medical records.

The medical team, led by the ward consultant, and nurse in charge will conduct a full board round of ward patients before the physical ward round Monday to Saturday. There will be a trouble shooting board round in the afternoon between at least one doctor and the nurse in charge to expedite discharges and manage emerging clinical and bed allocation issues.

The nursing staff will alert the doctors when patients need to be reviewed outside these times, in accordance with Trust NEWS trigger policy.

In the event of a cardiac arrest or a patient requiring urgent medical assistance, a cardiac arrest call will be placed via switchboard (2222). The crash team will attend the ward in line with the Trust policy.

All new doctors starting with the respiratory team will receive a local induction for orientation to the ward and respiratory team.

vi. Nursing Care

The Ward will be staffed 24 hours a day, 7 days a week.

A dedicated nursing lead, band 6 or above, for the High Care Unit will be allocated. The 2021 joint BTS, ICS guideline to the safe staffing of Respiratory support units where NIV is delivered, recommends one nurse for every 2 NIV cases. Staff ratios for respiratory High Care Units are recommended as follows:

- Early shift - Ratio 1:2 registered nurse
- Late shift - Ratio 1:2 registered nurse
- Night shift - Ratio 1:2 registered nurse
- All shifts – Ratio 1:4 HCA

One trained nurse will remain in each high care bay where patients are receiving NIV at all times, co-ordinating with the second nurse for that bay.

Where the ward 5 COVID CPAP side room is in use one additional registered nurse is required to ensure constant visibility of the patient while on CPAP. Likewise when the COVID CPAP bay is in use on ARU there must be one registered nurse for every 2 CPAP patients and a nurse remaining in the bay at all times, this requires additional staff above the usual ward establishment when COVID CPAP is not ongoing and will be supported by the medical division matron.

Each shift will have an overall nurse in charge who will take responsibility for the adequate staffing and smooth running of the whole ward. This nurse will be able to advise on whether a patient meets the admission criteria for the High Care Unit. This nurse will also attend to operational demands of each shift and will support the nurse in charge of each individual team to ensure that all aspects of hospital policy are adhered to, e.g. documentation, infection control etc.

These teams will provide a coordinated and appropriate level of respiratory care, with a shared workload, in order to provide equitable care for all patients. All nurses will be expected to assist with other teams in order to deliver safe care.

The senior nurse will ensure ward rounds are undertaken in a timely fashion and inform bed managers daily of specialist beds required and those suitable to step out of the High Care Unit, to facilitate patient flow and ensure specialist input is received.

There will be a formal nursing handover process from one shift to the next to ensure safe and efficient care for the patients and early discharge planning.

vii. Model of Multidisciplinary Team Approach

A multidisciplinary board round will take place daily to discuss assessments, care plans and to contribute to a safe and efficient discharge process, as part of the SAFER patient flow bundle.

The respiratory ward will use a multi-disciplinary approach to enable the holistic care of patients and to enable early safe discharge whenever possible. This will incorporate the skills of the following services:

- Specialist respiratory nurses
- Nurse practitioners
- Tier 2 physician's assistants
- Palliative Care Specialist Nurses
- Physiotherapists
- Occupational Therapists
- Speech and Language Therapists
- Pharmacists
- Respiratory Physiologists
- Social Services
- Onward care team
- COPD Community Team
- Dieticians

COPD Community Team:

The ward will follow the current protocol in place for referral to the COPD team for Early Supported Discharge (ESD) for patients with COPD by telephone, bleep or email. The COPD team will then endeavor to see these patients within 24 hours, with the aim to complete a Transition/Discharge Bundle and discharge safely home with support via the virtual ward

Specialist Respiratory Nurses:

The respiratory specialist nurse (RNS) team within the hospital will support patients with asthma, TB, ILD, bronchiectasis, chronic type 2 respiratory failure and COPD and coordinate oxygen assessments and home oxygen prescription and domiciliary NIV for discharge. They attend both wards daily Monday – Friday and one day on each site at the weekend

Physiotherapists:

The physiotherapists based on the respiratory ward will have a special interest in respiratory physiotherapy, enabling faster recovery from acute illness. They should be able to offer acute respiratory care, such as chest clearance and breathing techniques, as well as general rehabilitation services on the ward.

The physiotherapy team will attend the ward daily to review new and known referrals, and also to conduct a daily review of patients on NIV treatment (WRH), where appropriate. They will also liaise with other teams to improve patient discharge flows.

For patients with an urgent respiratory problem requiring physiotherapy out of hours, the on-call physiotherapist is available and can be contacted via Switchboard.

Occupational Therapists (OT):

The occupational therapy team will be directed to patients requiring their input by the nursing, medical or physiotherapy staff, by means of a telephone or electronic referral. They will endeavor to see these patients at their earliest opportunity to enable a safe discharge to the community.

Speech and Language Therapists (SALT)

The Speech and Language Therapy (SLT) are available to assess and manage patients with dysphagia and can be contacted via Switchboard.

Pharmacists:

The ward based pharmacy team will visit daily (Monday to Friday) to: complete patient medicines reconciliation, clinically check medication to ensure safe and appropriate prescribing, provide clinical advice or information as appropriate, and facilitate timely supply of medication to the ward and the dispensing and checking of discharge prescriptions. They will also join the clinical ward rounds wherever possible to integrate into the team approach to patient care.

Social Services/Patient Flow Centre

Social workers will be involved in arranging placements and packages of care to patients being discharged from the ward, and will be contacted by the nursing staff by means of electronic or telephone referral systems.

Support Staff/Admin/Clerks/Housekeepers

Both ARU and Ward 5 in Marlow unit have a ward administrator and housekeeper Monday to Friday, enabling timely patient admission/discharge and the provision of efficient clerical and reception service.

6. Implementation

6.1 Plan for implementation

The Corporate nursing team will oversee the effective communication of the approved policy to all relevant staff. This includes informing general managers, heads of department, heads of nursing, matrons and ward managers, that the policy is accessible via the policy link on the Trust Intranet.

The policy will be discussed within the respiratory directorate meeting.

6.2 Dissemination

The Policy will be placed on the Trust's Intranet respiratory page and all staff made aware through the use of the Trust Update, Trust-wide e-mail process and in regular Trust briefings.

Line managers are responsible for ensuring that a system is in place for their area of responsibility that keeps staff up to date with new key documents and policy changes.

The key staff identified in this policy will be informed of the policy and any changes to it directly by their line managers and advised that adherence is an essential requirement of their practice.

Staff may print key documents at need but must be aware that these are only valid on the day of printing and must refer to the intranet for the latest version. Hard copies must not be stored for local use as this undermines the effectiveness of an intranet based system.

Individual members of staff have a responsibility to ensure they are familiar with all key documents that impinge on their work and will ensure that they are working with the current version of a key document. Therefore, the Intranet must be the first place where staff looks for a key document.

Relevant key documents and guidelines will be available on the Trust's Internet.

6.3 Training and awareness

Awareness will be raised by the dissemination of this policy to all staff via the Intranet and through Trust updates. Access to key documents is also included in the Trust's induction programme.

Mandatory Annual Training & Respiratory Competencies:

Clinical staff providing care to patients are expected to complete Annual Mandatory Training. In addition to this, staff will be expected to complete on-going and bespoke training including specific respiratory competencies including blood gas analysis, NIV training, emergency oxygen, HFFNC, chest drain care, thoracic suctioning, tracheostomy care, and inhaler technique. The Senior Management and Clinical team review Mandatory Annual Training and Respiratory Competencies compliance for all staff on an on-going basis.

Risk Register

The risk register will be reviewed any High Care Unit risks will be identified and action taken to minimise these risks. The units will review the risk register according to the timescales outlined. Significant risks will be reviewed and actioned at Divisional Quality Assurance meeting.

Adverse Incident Reporting

All staff are encouraged to report adverse incidents and near misses through the Datix system. This reporting mechanism will help to improve standards of care and will minimise risk to patients, staff and visitors. Learning from adverse incidents occurs via team meetings.

7. Monitoring and compliance

Lead clinicians, Matrons, Ward and Department managers are responsible for ensuring staff comply with this policy.

Individual staff members must be aware of the policy and ensure that their clinical practice is in line with its guidance.

Monitoring and compliance against this policy is the responsibility of the Respiratory Medical Directorate Group, as outlined below:

- Audit: BTS national audits and NCEPOD NIV study.
- Patient & Staff Surveys: Annual surveys and review.
- Complaints, incident and Datix review: discussion and review at the Respiratory Directorate clinical governance meetings as required.
- Capacity & Demand: reviewed weekly, actions taken if necessary.

Risk Register

The risk register will be reviewed and any High Care Unit risks will be identified and action taken to minimise these risks. The units will review the risk register according to the timescales outlined. Significant risks will be reviewed and actioned at Divisional Quality Assurance meeting.

Adverse Incident Reporting

All staff are encouraged to report adverse incidents and near misses through the Datix system.

All incidents related to the policy reported via the Datix system will be investigated and changes made to the policy if required.

This reporting mechanism will help to improve standards of care and will minimise risk to patients, staff and visitors. Learning from adverse incidents occurs via team meetings.

Page/ Section of Key Document	Key control:	Checks to be carried out to confirm compliance with the Policy:	How often the check will be carried out:	Responsible for carrying out the check:	Results of check reported to: (Responsible for also ensuring actions are developed to address any areas of non-compliance)	Frequency of reporting:
	WHAT?	HOW?	WHEN?	WHO?	WHERE?	WHEN?
	These are the 'key' parts of the process that we are relying on to manage risk. We may not be able to monitor every part of the process, but we MUST monitor the key elements, otherwise we won't know whether we are keeping patients, visitors and/or staff safe.	What are we going to do to make sure the key parts of the process we have identified are being followed? (Some techniques to consider are; audits, spot-checks, analysis of incident trends, monitoring of attendance at training.)	Be realistic. Set achievable frequencies. Use terms such as '10 times a year' instead of 'monthly'.	Who is responsible for the check? Is it listed in the 'duties' section of the Policy? Is it in the job description?	Who will receive the monitoring results? Where this is a committee the committee's specific responsibility for monitoring the process must be described within its terms of reference.	Use terms such as '10 times a year' instead of 'monthly'.
	Appropriate Patients admitted into High Care Unit and General Respiratory ward beds	Datix monitoring BTS NIV audit	4 times a year Every 3-4 yrs.	Respiratory Directorate	Respiratory Directorate Meetings	4 times a year Every 2-3 yrs.
	Organisational aspects of care delivery for NIV on acute, general or respiratory wards to include aspects of staff training.	NCEPOD audit/study Adult patients (≥16 years old) treated with acute NIV over 3 month period	Every 2-3 yrs.	Respiratory Directorate	Respiratory Directorate Meetings	Every 2-3 yrs.
	Waiting time from decision for NIV to transfer to RHC unit meeting 1 hour standard	Physio led dedicated audit for this KPI	4 times a year	Respiratory directorate	Respiratory directorate meetings	4 times per year

8. Policy Review

This policy will be reviewed every 5 years.

9. References

Isolation and bed management policy	WHAT-INF-045
Critical Care Outreach Service Operational Policy	WAHT-KD-022
Guidelines for the use of non-invasive ventilation (ward-based)	WAHT-RES-004
Management of patients with tracheostomy tubes in Worcestershire Acute Trust policy	WAHT-KD-022
NIV Machine Capacity Emergency Protocol	See appendix 3
BTS/ICS Guidelines for the Ventilatory Management of Acute Hypercapnic Respiratory Failure in Adults	Thorax April 2016 Volume 71 Supplement 2
BTS/SIGN British Guideline on the Management of Asthma, October 2014	
The 2021 joint BTS, ICS guideline to the safe staffing of Respiratory support units	

10. Background

10.1 Equality requirements

The assessment conducted for this policy reveals no equality issues. The record of the assessment is held in the Clinical Governance Department. (Supporting Document 1)

10.2 Financial risk assessment

A financial risk assessment has been performed and reveals there are no financial implications to this policy. (Supporting Document 2).

10.3 Consultation

Contribution List

This key document has been reviewed in the respiratory Directorate meeting and has been circulated to the following individuals for consultation;

Respiratory Consultants	Dr C Hooper
	Dr J Johnstone
	Dr B Barker
	Dr A Crawford
	Dr K Cusworth
	Dr A Lal
	Dr See Ling Tan
Specialist Respiratory Nurses	Jane Newport
Physiotherapy Lead	Kate Spolton
ICU and Critical care outreach consultant lead	Dr Sian Bhardwaj
Director / heads of Nursing, Matrons	Matron Kelly Fee
	DDN Rebecca Moore
	DDDN Juliet Hawkesford-Barnes
Medical Director	
Head of Clinical Governance & Risk Management	
Health and Safety Manager	

This key document has been circulated to the chair(s) of the following committee's / groups for comments;

Committee
Divisional Management Board 20/06/24
Respiratory Department Meeting 26/01/24

10.4 Approval Process

Divisional Management Board 20/06/24 approved

Respiratory Specialist Meeting 26/01/24 approved

10.5 Version Control

This section should contain a list of key amendments made to this document each time it is reviewed.

Date	Amendment	By:
Jan 2024	Extensive update and revision due to new ward areas and processes and to respond to recommendations made following the December 2023 CQC high care unit visit	Dr Clare Hooper and Juliet Hawkesford-Barnes

Supporting Document 1 - Equality Impact Assessment Tool

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

		Yes/No	Comments
1.	Does the Policy/guidance affect one group less or more favourably than another on the basis of:		
	• Race	No	
	• Ethnic origins (including gypsies and travellers)	No	
	• Nationality	No	
	• Gender	No	
	• Culture	No	
	• Religion or belief	No	
	• Sexual orientation including lesbian, gay and bisexual people	No	
	• Age	No	
2.	Is there any evidence that some groups are affected differently?	No	
3.	If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?	No	
4.	Is the impact of the Policy/guidance likely to be negative?	No	
5.	If so can the impact be avoided?	N/A	
6.	What alternatives are there to achieving the Policy/guidance without the impact?		
7.	Can we reduce the impact by taking different action?		

If you have identified a potential discriminatory impact of this key document, please refer it to Assistant Manager of Human Resources, together with any suggestions as to the action required to avoid/reduce this impact.

For advice in respect of answering the above questions, please contact Assistant Manager of Human Resources.

Supporting Document 2 – Financial Impact Assessment

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

	Title of document:	Yes/No
1.	Does the implementation of this document require any additional Capital resources	No
2.	Does the implementation of this document require additional revenue	Yes – To establish staffing ratio within high care units.
3.	Does the implementation of this document require additional manpower	Yes, staffing levels for respiratory high care
4.	Does the implementation of this document release any manpower costs through a change in practice	Intended reduced length of stay
5.	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programmes or allocated training times for staff	No
	Other comments:	

If the response to any of the above is yes, please complete a business case and which is signed by your Finance Manager and Directorate Manager for consideration by the Accountable Director before progressing to the relevant committee for approval

Appendix 1: Levels of Care

Levels of Care

Level 0 (Multiplier =0.99*)
Patient requires hospitalisation
Needs met by provision of normal ward cares.

Descriptor

Care requirements may include the following

- Elective medical or surgical admission
- May have underlying medical condition requiring on-going treatment
- Patients awaiting discharge
- Post-operative / post-procedure care - observations recorded half hourly initially then 4-hourly
- Regular observations 2 - 4 hourly
- Early Warning Score is within normal threshold.
- ECG monitoring
- Fluid management
- Oxygen therapy less than 35%
- Patient controlled analgesia
- Nerve block
- Single chest drain
- Confused patients not at risk
- Patients requiring assistance with some activities of daily living, require the assistance of one person to mobilise, or experiences occasional incontinence

Level 1a (Multiplier =1.39*)
Acutely ill patients requiring intervention or those who are UNSTABLE with a GREATER POTENTIAL to deteriorate.

Care requirements may include the following

- Increased level of observations and therapeutic interventions
- Early Warning Score - trigger point reached and requiring escalation.
- Post-operative care following complex surgery
- Emergency admissions requiring immediate therapeutic intervention.
- Instability requiring continual observation / invasive monitoring
- Oxygen therapy greater than 35% + / - chest physiotherapy 2 - 6 hourly
- Arterial blood gas analysis - intermittent
- Post 24 hours following insertion of tracheostomy, central lines, epidural or multiple chest or extra ventricular drains
- Severe infection or sepsis

Level 1b (Multiplier = 1.72*)

Patients who are in a STABLE condition but are dependent on nursing care to meet most or all of the activities of daily living.

Care requirements may include the following

- Complex wound management requiring more than one nurse or takes more than one hour to complete.
- VAC therapy where ward-based nurses undertake the treatment
- Patients with Spinal Instability / Spinal Cord Injury
- Mobility or repositioning difficulties requiring the assistance of two people
- Complex Intravenous Drug Regimes - (including those requiring prolonged preparatory / administration / post-administration care)
- Patient and / or carers requiring enhanced psychological support owing to poor disease prognosis or clinical outcome
- Patients on End of Life Care Pathway
- Confused patients who are at risk or requiring constant supervision
- Requires assistance with most or all activities of daily living
- Potential for self-harm and requires constant observation
- Facilitating a complex discharge where this is the responsibility of the ward-based nurse

Level 2 (Multiplier = 1.97*)

May be managed within clearly identified, designated beds, resources with the required expertise and staffing level OR may require transfer to a dedicated Level 2 facility / unit

- Deteriorating / compromised single organ system
- Post-operative optimisation (pre-op invasive monitoring) / extended post-op care.
- Patients requiring non-invasive ventilation / respiratory support; CPAP / BiPAP in acute respiratory failure
- First 24 hours following tracheostomy insertion
- Requires a range of therapeutic interventions including:
 - Greater than 50% oxygen continuously
 - Continuous cardiac monitoring and invasive pressure monitoring
 - Drug Infusions requiring more intensive monitoring e.g. vasoactive drugs (amiodarone, inotropes, gtn) or potassium, magnesium
 - Pain management - intrathecal analgesia
 - CNS depression of airway and protective reflexes
 - Invasive neurological monitoring

Level 3 (Multiplier = 5.96*)

Patients needing advanced respiratory support and / or therapeutic support of multiple organs.

- Monitoring and supportive therapy for compromised / collapse of two or more organ / systems
- Respiratory or CNS depression / compromise requires mechanical / invasive ventilation
- Invasive monitoring, vasoactive drugs, treatment of hypovolaemia / haemorrhage / sepsis or neuro protection

Appendix 2: Admission and referral for patients with domiciliary NIV or CPAP**Inpatient's admitted with a DOMICILARY NIV OR DOMILIARY CPAP**

Please inform the Respiratory Clinical Nurse Specialists of all inpatients admitted with a DOM NIV or DOM CPAP to allow us wherever possible to assess the patient's machine and provide any new consumables required. This can be done via:

- Sunrise General Respiratory Nurse Referral
- Worcester Royal Hospital:
 - Bleep 695
 - 01905760255
- Alexandra Hospital:
 - Bleep 1264 or 1265
 - 01527503887

All patients with a Lumis machine, Stella machine or Nippy machine should wherever possible be admitted to Acute Respiratory Unit at Worcester Hospital or Ward 5 / Marlow Unit at Alexandra Hospital, when cause of admission is respiratory presentation or deterioration. All patient's admitted with past medical history of neuromuscular disorder on NIV/CPAP are recommended for ARU / Ward 5 after a respiratory medical review.

Patient with other types of CPAP machines can be admitted to outlying wards and the Respiratory Clinical Nurse Specialist can review them there.

Appendix 3: NIV Initiation page

NAME:

NHS NO:

HOSP NO:

D.O.B: MALE ☐ FEMALE ☐

WARD CONS

Appendix: 2 NIV Initiation Page

Date and Time NIV Commenced:

Completed by:
(Sign and print name with Bleep and designation)

Diagnosis

COPD ☐ Chest Wall/Neuromuscular ☐

Obesity/Hypoventilation ☐ CSA ☐

Cardiogenic Pulmonary Oedema ☐ Other Diagnosis: (Specify) ☐

Previous baseline ABG's (if known): pH paCO₂ paO₂ FO₂

Checklist:

	YES	NO	
Acute Type II Respiratory Failure due to one/more of the above?	<input type="checkbox"/>	<input type="checkbox"/>	†Optimal medical therapy includes: Controlled O ₂ Salbutamol nebs Ipratropium neb Corticosteroids Antibiotics
Has the patient had a recent CXR?	<input type="checkbox"/>	<input type="checkbox"/>	
Has the patient received optimal medical management†?	<input type="checkbox"/>	<input type="checkbox"/>	
Is the patients oxygen requirement less than 60% O ₂	<input type="checkbox"/>	<input type="checkbox"/>	
Have contraindications been excluded? (see over page)	<input type="checkbox"/>	<input type="checkbox"/>	

CXR Findings:

Pneumothorax? YES ☐ NO ☐

Decision to commence NIV made by: Consultant ☐ SpR ☐ Name: _____

Outlying patients discussed with Respiratory SpR/Consultant (In Hours): YES ☐ NO ☐

* Performance Status:

- 0 Normal activity without restriction
- 1 Strenuous activity limited, can do light work
- 2 Limited activity, capable of self-care
- 3 Limited activity, limited self-care
- 4 Confined to bed/chair, unable to self-care

* MRC Dyspnoea score:

- 1 Not troubled by breathlessness, except on strenuous exercise
- 2 Short of breath when hurrying or walking up a slight hill
- 3 Walks slower than contemporaries on the level because of breathlessness, or has to stop for breath walking at own pace
- 4 Stops for breath after 100 metre, or a few minutes on the level
- 5 Too breathless to leave the house/breathless when dressing/undressing

* Please circle

Consent given by patient ☐ Patient unable to consent ☐ Decision discussed with relative ☐

Escalation of Care if NIV fails: Escalate to ICU/Intubation ☐ Palliative/Supportive Management ☐

Comments: _____

Resus Status: FOR / NOT FOR **Date of Resus decision:** ____ / ____ / ____ **DNAR form complete** ☐

Ward Area:

Is the patient in an appropriate area to receive NIV? YES ☐ NO ☐

If not, then bed managers to arrange transfer ASAP. Bed Manager contacted: Date/time: _____

Arterial Blood Gases	Date	Time	IPAP	EPAP	O ₂	pH	paO ₂	paCO ₂	BE	HCO ₃ ⁻
e Pre NIV										

☐

Contraindications:

- ☐ Unable to maintain/protect airway, e.g. coma or bulbar diseases (consider Guedel airway)
- ☐ Unstable airway e.g. recent facial or upper airway surgery or burns
- ☐ Life threatening hypoxia; especially in association with acute asthma
- ☐ Pneumothorax, unless intercostal drain in place
- ☐ Fixed upper airway obstruction
- ☐ Multi system failure or haemodynamic instability (where monitoring in ICU is required)
- ☐ Severe co-morbidity or moribund patients; including end-stage pulmonary fibrosis

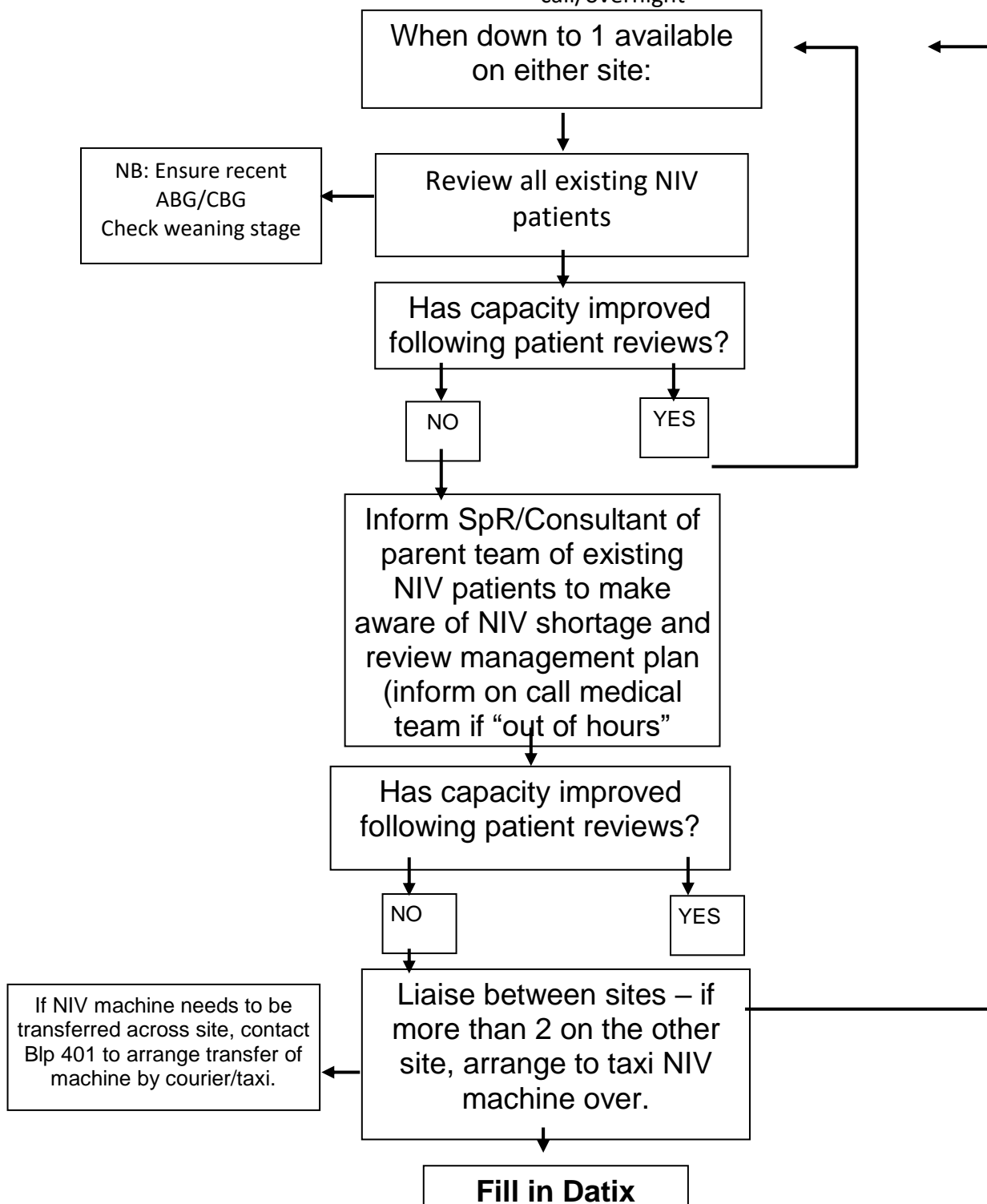
NIV used with Care:

- ☐ Patient unable to co-operate with NIV e.g. due to confusion or dementia
- ☐ Copious secretions
- ☐ Vomiting
- ☐ Bowel Obstruction
- ☐ Naso-gastric feeding
- ☐ Gross bullous lung disease

For patients with Type I Respiratory Failure, NIV is not the treatment of choice as the estimated maximum inspired oxygen provided by NIV is 60%. In such circumstances please consider CPAP or High Flow Nasal Oxygen

Appendix 4: NIV Machine Capacity Emergency Protocol

By 4pm each day, there needs to be 2 machines available for each site, to ensure capacity for on call/overnight



Appendix 5:

ARU Procedure room cleaning and stocking process

Cleaning protocol

The procedure room on ARU is used for performing aseptic pleural procedures.

ISS domestic staff clean the room each morning

- Floors mopped
- Bins emptied
- Damp dusting of surfaces
- Surgical sink cleaned
- top up paper towel, hand wash and alcohol gel dispensers

A HPV clean is performed routinely each month and at additional times if necessary as per Trust protocols. The clinical waste bins are emptied 3-4 times/day. Curtains are changed monthly as a routine but more frequently if infection control concern.

Nursing staff clean the room and all equipment each evening.

- Clinell wipe of all surfaces and equipment
- Change Sharpsafe container as necessary

A register is kept for audit purposes

The pleural nursing team clean equipment and surfaces between patients.

Clinical stock

The procedure room has a store room and cupboard for storing all necessary equipment for performing pleural procedures. These are 'topped up' by both the pleural nursing team and the ward domestic. The pleural team ensure equipment is ordered in a timely manner and expiry dates are checked weekly and a record kept.