| Trust Policy | Worcestershire Acute Hospitals NHS Trust |
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# Clinical Policy for the Use of Nebulisers

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| **Department / Service:** | Respiratory |
| **Originator:** | Mr Mike Hallissey, Jane Newport |
| **Accountable Director:** | Mr Mike Hallissey, Chief Medical Officer |
| **Approved by:** | Respiratory Directorate Meeting |
| **Date of approval:** | 4th April 2023 |
| **Review Date:**<br>**This is the most current document and should be used until a revised version is in place** | 4th April 2026 |
| **Target Organisation(s)** | Worcestershire Acute Hospitals NHS Trust |
| **Target Departments** | All inpatient and Outpatient areas |
| **Target staff categories** | Medical staff<br>Qualified Nursing Staff<br>Physiotherapists |

| **Policy Overview:** |
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| This document provides clinical guidance and best practice guidance for the use of nebulisers within Worcestershire Acute NHS Trust. |

**Key amendments to this document**

| Date | Amendment | Approved by: |
|---|---|---|
| 22nd November 2002 | Document was first approved | Clinical Effectiveness Committee |
| October 2004 | Document was reviewed by Clinical Lead and extended with no amendments made | Sarah Austin |
| April 2015 | Complete review of document to ensure Trust in line with the British and European Guidelines on the use of nebulisers in asthma and COPD | Amended by Sarah Austin Approved by Medicines Safety Committee |
| August 2017 | Document extended for 6 months as per TMC paper approved on 22nd July | TMC |
| 5th December 2017 | Sentence added in at the request of the Coroner | |
| December 2017 | Document extended for 3 months as per TLG recommendation | TLG |
| March 2018 | Document extended for 3 months as approved by TLG | TLG |

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|---|---|---|
| June 2018 | Document extended for 3 months as per TLG recommendation | TLG |
| July 2018<br>7/10/2019<br>13/11/2019 | Review of document to ensure it is in line with the latest national guidelines for nebulisers in asthma, COPD and bronchiectasis<br>Approved by TIPCC with minor amendments<br>Approved by Respiratory Directorate Governance | Sarah Austin |
| 27th July 2021 | Approved Clinical Guidance created into a Trust policy. | Mike Hallissey, CMO.<br>TME |
| 1st February 2023 | Change to monitoring and compliance.<br>Minor amendments to wording in policy. No other major changes | Jane Newport |

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## Supporting Documents

| | |
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| Supporting Document 1 | Equality Impact Assessment |
| Supporting Document 2 | Financial Risk Assessment |

## 1. Introduction

### Principles

This document provides clinical guidance and best practice guidance for the use of nebulisers within Worcestershire Acute NHS Trust.

"A nebuliser is a device that can convert a liquid into aerosol droplets suitable for patient inhalation." (Boe et al, 2001)

- Nebulisers are widely used in the Trust. They are used for delivery of a variety of medications but also to provide humidification to aid expectoration. Nebulisers are not used to treat breathlessness. They are used to aid bronchodilation in acute exacerbations chronic respiratory conditions such asthma and COPD, and may be used to manage acute conditions such as respiratory tract infections, pneumonia, influenza where bronchodilation may either be reasonably suspected or detected through clinical examination.

though other medications including saline, steroids and antibiotics may also be given by this route.

This guidance does not override the individual responsibility of health professionals to make appropriate decision according to the circumstances of the individual patient in consultation with the patient and /or carer. Health care professionals must be prepared to justify any deviation from this guidance.

Inhaled medication delivery provides direct delivery to the respiratory tract but has more complexity than using the oral route or inhalers.

**1**. To ensure effective delivery, some medications may require specific equipment
**2.** The particles generated by a nebuliser need to be of the correct size to penetrate the lungs. It is important to ensure the correct approach is taken using either a mechanical nebuliser or the correct flow rate if the nebuliser is gas driven.
**3**. Because nebulisers deliver a higher dose of the drug when compared to an inhaler, there is the potential for a higher incidence of side effects
**4.** There is a risk of contamination of the equipment with infective organisms if it is not cleaned and maintained properly

## 2. Scope of this document

**THIS POLICY IS FOR USE BY THE FOLLOWING CLINICAL AREAS ACROSS THE TRUST:**

- all in-patient
- all out-patient areas

**THIS POLICY IS FOR USE BY THE FOLLOWING STAFF GROUPS:**

- Medical staff
- Qualified Nursing Staff
- Physiotherapists

## 3. Policy Detail

### Framework

**DETAILS OF POLICY**

| Action | Rational |
|---|---|
| Nebulised medication must be prescribed on the patient's drug chart and the medication must be checked and administered in accordance with the Trust's medicines policy. | To act in accordance with the Trust's key policies |
| The prescription **must** specify whether the drug is to be given via a mechanical nebuliser or oxygen flow meter and a target Oxygen saturation $SpO_2$ identified from which clinical management plans should be described and be reviewed against.<br><br>The administrator **must** also ensure that they are aware of all of the above parameters and if not explicit on prescription then should not proceed and escalate | Driving gas should be running at 6 to 8L/ min flow in order to aerosolise the drug particles to the correct size for optimal lung deposition. A nebuliser unit is designed to achieve this.<br><br>Patients with type 2 respiratory failure (T2RF) should have their nebuliser driven by mechanical nebuliser, to reduce the risk of disturbing their blood gas balance.<br><br>Where a patient has T2RF and is hypoxic, oxygen can be given via nasal specs at the same time as the patient receives their nebulised medication, to maintain their $SpO_2$ in the patient's target range.<br>**It is the responsibility of the prescriber to determine the correct driving agent for the nebuliser.** |

| **Gather the correct equipment:** | |
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| Standard nebuliser and mask is appropriate for people having beta 2 agonists or saline | These drugs do not have localised side effects |
| Standard nebuliser and mouthpiece should be used where ipratropium is being administered | Ipratropium has the potential side effect of causing glaucoma if it is in contact with the eyes |

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| High efficiency/breath enhanced nebuliser and mouthpiece should be used where steroids are being administered | To maximise drug deposition in the lungs and minimise steroid deposition on the skin |
| High efficiency/breath enhanced nebuliser with mouthpiece and filter or exhaust tubing should be used where antibiotics are being administered.<br><br>The drug must also be given in a single patient, well ventilated room | To maximise drug deposition in the lungs and minimise exposure of staff and other patients to aerosolised antibiotics (which are a risk factor for occupational asthma) |

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| **Ensure the patient is comfortable following the procedure:** | |
| If the patient has had a nebulised steroid, provide the opportunity for them to rinse their mouth with water (and spit rather than swallow) after the nebuliser | To minimise steroid deposition in the mouth |
| **After each dose:** | |
| Empty any residual solution from the nebuliser into a clean dry tissue<br><br>Do NOT wipe out the nebuliser as there is a risk of residual particles from the tissue being left and aerosolised with the next dose. | Nebulisers, masks and mouthpieces are single patient use which means they can be re-used by the same patient but need to be kept clean and dry. |
| Invert the nebuliser on a clean paper towel on the locker top and allow to air dry. Reattach the nebuliser once dry or when administering the next dose.<br><br>The mask and nebuliser should be replaced each morning with the first nebuliser of the day or sooner if visibly soiled or solution has precipitated out. | As there are risks associated with hand washing equipment, the risk needs to be managed by alternative methods, to ensure that bacterial contamination of the equipment is minimised. |

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| Dispose of the used mask and tubing into the offensive waste stream and the nebuliser into the medicinally contaminated soft waste cardboard clinisafe bin. | To conform to the waste management requirements. |
| Label the patient's nebuliser mask and tubing with their details, using a patient label.<br><br>Write the date that the nebuliser mask and tubing were supplied on the label. | To ensure that the correct equipment is used by the correct patient.<br><br>To demonstrate that the nebuliser has been changed on a daily basis. |
| Once the patient's clinical condition allows and where there is a continued need for inhaled medication, the patient should be swapped to inhalers.<br><br>If the patient is normally on an inhaler (eg ICS in asthma) this should be continued even if the patient is on oral steroids and nebs to maintain optimal inhaled therapy during exacerbation | Where medication is available in both nebulised and inhaler form, the nebulised dose is usually higher. The higher dose should usually be reserved for acute episodes. There is a higher risk of side effects (e.g. cardiac dysrhythmias from salbutamol) with nebulisers than with inhalers<br><br>Nebulisers do not offer better lung deposition than inhalers<br><br>A correct inhaler technique is important and it is essential that patients have optimised their technique, using a spacer if needed, and developed their skill and confidence with these devices before discharge |

## 4. Duties

It is the responsibility of the prescriber to ensure that the Nebulised medication is prescribed on the patient's drug chart and the medication must be checked and administered in accordance with the Trust's medicines policy.

It is the responsibility of the person administering the nebuliser to ensure that they understand the prescription and all of the details are appropriately completed on the drug chart.

## 5. Implementation

This policy will be implemented as part of the learning from a serious incident in the Trust & will be disseminated through clinical teams.

## 6. Monitoring and compliance

| 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?** |
| Page 5 | Delivery driving devise specified on drug chart | Audits/spot check | quarterly | Ward manager | Divisional governance | quarterly |
| Page 5/6 | Mouthpiece delivery devices in use correctly | Audits/ spot check | quarterly | Ward manager | Divisional governance | quarterly |
| Page 6 | Correct storage of patient specific nebuliser equipment | Audits/ spot check | quarterly | Ward manager | Divisional governance | quarterly |
| Page 7 | Correct labelling of patient specific nebuliser equipment | Audits/ spot check | quarterly | Ward manager | Divisional governance | quarterly |

## 7. Policy Review

Document to be reviewed every three years.

**Contribution List**

This key document has been circulated to the following individuals for consultation;

| Designation |
|---|
| Mike Hallissey, CMO |
| Jane Newport |
| |
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| |

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

| Committee |
|---|
| Trust Management Executive |
| Respiratory Directorate Meeting |
| |
| |

**Version Control**

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

| Date | Amendment | By: |
|---|---|---|
| 27th July 2021 | Approved Clinical Guidance created into a Trust policy. | Mike Hallissey, CMO. TME |
| 1st February 2023 | Change to monitoring and compliance. Minor amendments to wording in policy. No other major changes | Jane Newport |

## Supporting Document 1 - Equality Impact Assessment Tool

To be completed by the key document author and included as an appendix to key document when submitted to the appropriate committee for consideration and approval.

Please complete assessment form on next page;

NHS Worcestershire Acute Hospitals NHS Trust

**Herefordshire & Worcestershire STP - Equality Impact Assessment (EIA) Form**
**Please read EIA guidelines when completing this form**

**Section 1 - Name of Organisation** (please tick)

| | | | | | |
|---|---|---|---|---|---|
| Herefordshire & Worcestershire STP | | Herefordshire Council | | Herefordshire CCG | |
| Worcestershire Acute Hospitals NHS Trust | X | Worcestershire County Council | | Worcestershire CCGs | |
| Worcestershire Health and Care NHS Trust | | Wye Valley NHS Trust | | Other (please state) | |

| | |
|---|---|
| **Name of Lead for Activity** | |

| | | | |
|---|---|---|---|
| **Details of individuals completing this assessment** | **Name** | **Job title** | **e-mail contact** |
| | **Mike Hallissey** | **Chief Medical Officer** | **mikehallissey@nhs.net** |
| | **Kira Beasley** | **Business Manager to CMO** | **Kira.beasley@nhs.net** |
| | | | |
| **Date assessment completed** | **29/07/2021** | | |

**Section 2**

| | | | | |
|---|---|---|---|---|
| Activity being assessed (e.g. policy/procedure, document, service redesign, policy, strategy etc.) | **Title: Clinical Policy for the use of Nebulisers** | | | |
| What is the aim, purpose and/or intended outcomes of this Activity? | This document provides clinical guidance and best practice guidance for the use of nebulisers within Worcestershire Acute NHS Trust. | | | |
| Who will be affected by the development & implementation of this activity? | ❑<br>☒<br>❑<br>❑ | Service User<br>Patient<br>Carers<br>Visitors | ☒<br>❑<br>❑<br>❑ | Staff<br>Communities<br>Other _____ |
| Is this: | ☒ Review of an existing activity<br>❑ New activity | | | |

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| | ❑ Planning to withdraw or reduce a service, activity or presence? |
| What information and evidence have you reviewed to help inform this assessment? (Please name sources, eg demographic information for patients / services / staff groups affected, complaints etc. | Following a serious incident (SI) and the subsequent investigation the Trust policy for the use of Nebulisers has been developed to support the Clinical Guidance for the prescribing, monitoring and administration of oxygen in adults.<br><br>This policy has also been developed following a national patient safety alert (NPSA) |
| Summary of engagement or consultation undertaken (e.g. who and how have you engaged with, or why do you believe this is not required) | The Policy was developed with the Respiratory Consultant teams and Divisional Directors of Nursing. The policy has been reviewed and approved through the Trust Management Executive Team. |
| Summary of relevant findings | Due to the NPSA the findings of discussions to implement the use of mechanical nebulisers has been agreed. |

## Section 3

Please consider the potential impact of this activity (during development & implementation) on each of the equality groups outlined below. **Please tick one or more impact box below for each Equality Group and explain your rationale**. Please note it is possible for the potential impact to be both positive and negative within the same equality group and this should be recorded. Remember to consider the impact on e.g. staff, public, patients, carers etc. in these equality groups.

| Equality Group | Potential positive impact | Potential neutral impact | Potential negative impact | Please explain your reasons for any potential positive, neutral or negative impact identified |
|---|---|---|---|---|
| **Age** | X | | | The use of mechanical nebulisers will allow all patients to receive the same, high quality standard of care. Reducing the possibility of the serious incident reoccurring. |
| **Disability** | X | | | The use of mechanical nebulisers will allow all patients to receive the same, high quality standard of care. Reducing the possibility of the serious incident reoccurring. |
| **Gender Reassignment** | X | | | The use of mechanical nebulisers will allow all patients to receive the same, high quality standard of care. Reducing the possibility of the serious incident reoccurring. |
| **Marriage & Civil Partnerships** | X | | | The use of mechanical nebulisers will allow all patients to receive the same, high quality standard of care. Reducing the possibility of the serious incident reoccurring. |
| **Pregnancy & Maternity** | X | | | The use of mechanical nebulisers will allow all patients to receive the same, high quality standard of care. Reducing the possibility of the serious incident reoccurring. |

| Equality Group | Potential positive impact | Potential neutral impact | Potential negative impact | Please explain your reasons for any potential positive, neutral or negative impact identified |
|---|---|---|---|---|
| **Race including Traveling Communities** | X | | | The use of mechanical nebulisers will allow all patients to receive the same, high quality standard of care. Reducing the possibility of the serious incident reoccurring. |
| **Religion & Belief** | X | | | The use of mechanical nebulisers will allow all patients to receive the same, high quality standard of care. Reducing the possibility of the serious incident reoccurring. |
| **Sex** | X | | | The use of mechanical nebulisers will allow all patients to receive the same, high quality standard of care. Reducing the possibility of the serious incident reoccurring. |
| **Sexual Orientation** | X | | | The use of mechanical nebulisers will allow all patients to receive the same, high quality standard of care. Reducing the possibility of the serious incident reoccurring. |
| **Other Vulnerable and Disadvantaged Groups** (e.g. carers; care leavers; homeless; Social/Economic deprivation, travelling communities etc.) | X | | | The use of mechanical nebulisers will allow all patients to receive the same, high quality standard of care. Reducing the possibility of the serious incident reoccurring. |
| **Health Inequalities** (any preventable, unfair & unjust differences in health status between groups, populations or individuals that arise from the unequal distribution of social, environmental & economic conditions within societies) | X | | | The use of mechanical nebulisers will allow all patients to receive the same, high quality standard of care. Reducing the possibility of the serious incident reoccurring. |

**Section 4**

| What actions will you take to mitigate any potential negative impacts? | Risk identified | Actions required to reduce / eliminate negative impact | Who will lead on the action? | Timeframe |
|---|---|---|---|---|
| | | . | | |
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| **How will you monitor these actions?** | | | | |
| **When will you review this EIA?** (e.g in a service redesign, this EIA should be revisited regularly throughout the design & implementation) | **EIA will be routinely reviewed with the policy in 2024.** | | | |

**Section 5 -** Please read and agree to the following Equality Statement

**1. Equality Statement**

1.1. All public bodies have a statutory duty under the Equality Act 2010 to set out arrangements to assess and consult on how their policies and functions impact on the 9 protected characteristics: Age; Disability; Gender Reassignment; Marriage & Civil Partnership; Pregnancy & Maternity; Race; Religion & Belief; Sex; Sexual Orientation

1.2. Our Organisations will challenge discrimination, promote equality, respect human rights, and aims to design and implement services, policies and measures that meet the diverse needs of our service, and population, ensuring that none are placed at a disadvantage over others.

1.3. All staff are expected to deliver services and provide services and care in a manner which respects the individuality of service users, patients, carer's etc, and as such treat them and members of the workforce respectfully, paying due regard to the 9 protected characteristics.

| | |
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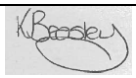
| **Signature of person completing EIA** |  |
| **Date signed** | 29/07/2021 |
| **Comments:** | |
| **Signature of person the Leader Person for this activity** |  |
| **Date signed** | 29/07/2021 |
| **Comments:** | |

## 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 | No |
| **3.** | Does the implementation of this document require additional manpower | No |
| **4.** | Does the implementation of this document release any manpower costs through a change in practice | No |
| **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