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ASTHMA MANAGEMENT - STRETCHING INHALED SALBUTAMOL

PRACTICE GUIDELINE ©

DOCUMENT SUMMARY/KEY POINTS

The following guidelines are for Registered Nurses (RNs) caring for children with asthma who have been assessed as suitable to stretch inhaled salbutamol.

- The asthma clinical guidelines must be followed in the prescription and administration of inhaled salbutamol.
- The frequency of inhaled salbutamol may only be adjusted by a Medical Officer or Nurse Practitioner.

A Registered Nurse with 12 months experience who has completed all aspects of respiratory assessment and /or completed a recognised Sydney Childrens Hospital Network (SCHN) asthma course if required and is deemed competent by one of the following: CSA Assessor; Clinical Nurse Educator, Nurse Practitioner or Clinical Nurse Consultant can safely stretch salbutamol.

Information for Asthma Management:

- https://webapps.schn.health.nsw.gov.au/epolicy/policy/5886

eMM quickstart guideline

- https://learning.schn.health.nsw.gov.au/asthma-action-plan-asthma-stretching-nurse
- https://learning.schn.health.nsw.gov.au/medication-frequencies
- https://learning.schn.health.nsw.gov.au/asthma-management-powerplan

This document reflects what is currently regarded as safe practice. However, as in any clinical situation, there may be factors which cannot be covered by a single set of guidelines. This document does not replace the need for the application of clinical judgement to each individual presentation.

Approved by:	SCHN Policy, Procedure and Guideline Committee	
Date Effective:	1st January 2024	**Review Period:** 3 years
Team Leader:	Clinical Nurse Consultant	**Area/Dept:** Respiratory Medicine

NSW GOVERNMENT

CHANGE SUMMARY

- Document due for mandatory review
- Included Accreditation information.
- Minor changes made throughout: recommend to re-read the entire guideline.

READ ACKNOWLEDGEMENT

- All staff who administer stretched inhaled salbutamol should read and acknowledge this document.

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This Guideline may be varied, withdrawn or replaced at any time.

1 Introduction

1.1 Purpose/Scope

The purpose of this guideline is to ensure that the frequency of administration of prescribed salbutamol promotes a timely, safe, and appropriate management of patients in respiratory distress. Weaning or stretching salbutamol is where the RN performs a full respiratory assessment to determine if salbutamol can be given less frequently. Only Registered Nurses (RNs) with at least 12 months experience, who have proficient respiratory assessment skills (as deemed by the Clinical Nurse Educator) and/ or completed a recognised SCHN asthma course/ can stretch prescribed inhaled salbutamol. Details of these courses are listed in 1.3 and may be accessed at each site by contacting Clinical Nurse Educators/s from Hunter Baillie, C3 West and Emergency Departments across both sites.

1.2 Responsibilities

Managers are responsible for ensuring that registered nurses who undertake this practice are provided with the appropriate knowledge and training.

Registered Nurses are responsible for ensuring they are professionally accountable and work within their own scope of practice.

1.3 Accreditation

- Read and Acknowledge
    - Asthma Acute Management Guideline
    - Asthma Management – Stretching Salbutamol Practice Guideline
- Complete Learning Activities
    - Learning Kids Respiratory Assessment Video
        - https://learning.schn.health.nsw.gov.au/paed-respiratory-assessment-lucy-hatton
- Attend Education Course
    - Complete CHW (Children s Hospital at Westmead) Wheezy Way of Learning Education

      OR
    - Complete SCH (Sydney Children s Hospital) Asthma, Wheeze and Salbutamol Education Program
- Supervised practice with CNE or senior nurse with extensive experience in salbutamol weaning to complete competency
- Completion of the Stretching Salbutamol Clinical Skills Assessment
- Maintain Practice
    - Remain updated with current policies and procedures as appropriate

2 Prescription

Salbutamol can only be prescribed by a Medical Officer and/or Nurse Practitioner. The order must be prescribed as per the Medication Handling in NSW (New South Wales) Health Public Health Facilities Policy in the patient's Electronic Medication Management record (eMM) or on the Paediatric National Inpatient Medication Chart ((PNIMC)

The order must clearly state the medication, dose, and frequency, for example: *"6 puffs of salbutamol via spacer every 1 – 3 hours as per the stretching inhaled salbutamol guideline*"

For further information on doses refer to Asthma Acute Management Practice Guideline

3 Indications

RNs can stretch inhaled salbutamol only after the child has reached hourly salbutamol. Before and after administration of each dose of inhaled salbutamol the child must have documented Respiratory Assessment. (See Appendix 1)

3.1 Improvement

If the respiratory assessment indicates a level of improvement, then the frequency of the inhaled salbutamol may be stretched as deemed appropriate by the clinical and respiratory assessment by no more than a 1 hourly interval at a time, for example 1-2 hours, 2-3 hours, 3-4 hours. The exception to this would be if the Medical Officer or Nurse Practitioner has documented in the clinical progress notes that the child's salbutamol is not to be stretched until next review.

3.2 Nil improvement

If both the respiratory assessment and Between the Flags assessment indicate little or no improvement, then the child should have a medical review. The administration of salbutamol should be continued at the same dose and frequency until the medical review is completed.

Cumulative doses of Salbutamol can cause agitation, tremor, tachycardia, tachypnoea and rarely, hypertension. Raised lactate, hypokalaemia and raised glucose on VBG may be markers of Salbutamol Toxicity

If the patient is noted to have a respiratory deterioration and/or their observations are documented in either the blue, yellow, or red zone on the BTF care, this must be escalated as per the **Clinical Emergency Response (CERS) protocol.** For more information refer to the Between the Flags- Clinical Emergency Response System - SCHN Procedure.

3.3 The sleeping child

A respiratory assessment must be attended to regardless of the frequency of the inhaled salbutamol even if the child is sleeping. The child should be woken for their inhaled salbutamol therapy and stretched accordingly.

Discharge considered once BTF observations are stable, and salbutamol weaned to 3-4hourly and meets discharge criteria.

4 Documentation

Documentation of the respiratory assessment and clinical decision-making process should include: (see below for assessment tool)

- Any changes including improvements or deterioration in respiratory assessment, frequency of the inhaled salbutamol, delivery device- spacer with or without a mask and/ or nebuliser and if there are any oxygen requirements.
- What action was taken i.e.: because of stretching or not stretching the inhaled salbutamol.
- If any education on asthma has been provided to the family for example: parents/carers and child's technique with spacer or appropriate inhaled delivery device.

5 References

1. Asthma- Acute Management Practice Guideline.
2. Between the Flags (BTF) Clinical Emergency Response System (CERS)
3. Medication Handling in NSW Public Health Facilities
4. National Asthma Council, Australian Asthma Handbook 2022 V2.2
5. NSW Health Policy Directive 'Recognition and Management of Patients Who Are Deteriorating' (PD2020_015)

Appendix 1 Respiratory Assessment Guide for Stretching of Inhaled Salbutamol

Assessment	Indications for Stretching Inhaled Salbutamol
Work of breathing activity level/ level of distress	• Working of breathing as nil or mild as per the patients BTF • Increase in activity level, increase in alertness • Patient self-reported chest tightness / difficulty breathing (age dependant)
Respiratory rate	• Improvements in respiratory rate decreasing to within normal limits for age
Heart rate	• Decrease in heart rate within normal limits for age, however Salbutamol does *increase* heart rate
Signs of Respiratory Distress	• Reduction in use of accessory muscles, subcostal/intercostal recession, tracheal tug, and nasal flaring
Speech	• Able to speak in sentences
Auscultation – air entry, wheeze	• Air entry improved • Wheeze reduced or appearance of wheeze in a previously quiet chest (Note: Wheeze alone is not an indication for giving Salbutamol. The absence of wheeze and reduced air entry (above) would indicate deterioration.
Cough	• Listening for a reduction, change in character of cough
Oxygen saturation	• Decrease in oxygen requirement • Oxygen saturations above 92%

*Note: not all indications need to be met to facilitate stretching

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Appendix 2 Signs & Symptoms of Acute Severity

PRESENTATION	MILD	MODERATE	SEVERE & LIFE THREATENING
Altered consciousness	No	No	May be Agitated confused, drowsy
Physical exhaustion	No	No	Yes
Ability to Talk.	Sentences or long vigorous cry	Phrases or shortened cry	Words/weak cry or unable to speak/cry
Accessory muscle use	Normal	Mild (Blue Zone)	Moderate (Yellow Zone) ***Life threatening- severe (Red Zone)
Wheeze intensity	Variable	Moderate - loud	Often quiet *** Life threatening- silent chest
Pulse rate	Within normal range for age (White/ Blue Zone)	Tachycardia (Blue/Yellow Zone)	Marked tachycardia (Red Zone) ***Life threatening- Marked tachycardia or bradycardia
Central cyanosis*	Absent	Absent	Likely to be present
Oximetry on presentation ($Sa0_2$)	>94% (White/ Yellow Zone)	90-94% (Yellow Zone)	<90% (Red Zone)

*** The signs of central cyanosis include blue lips and mouth mucosa**

***** Life Threatening: The child should be assigned to the most severe grade in which any feature occurs. If the child has received treatment prior to arrival, manage as more severe than the clinical signs indicate. Note: colours refer to SPOC (Standard Paediatric Observation Chart)**