# Clinical recommendation on use of salbutamol post acute asthma attack

## Prepared by the Salbutamol /Dexamethasone Post-Attack Subgroup of the London Asthma Leadership and Implementation Group for CYP Asthma (LALIG)

### Purpose of the recommendation

To increase understanding of the risks associated with the use of salbutamol to support discharge of children and young people post-acute asthma attack, describe why it is contentious, and increase emphasis on control of symptoms for at least 4 hours following short-acting beta-agonist (SABA) dosing.

We would like to emphasise from the outset that the absolute aim of asthma care should always be the prevention of acute asthma exacerbations through appropriate prescribing, monitoring and compliance with appropriate preventative medication.

This statement represents the collective views of the LALIG (see Appendix 1 for membership).

### Salbutamol: Its use in post-asthma attack

The use of standardised prescriptive salbutamol weaning plans as part of a post-asthma attack treatment plan is a recognised practice that has evolved to support busy paediatrics departments to discharge asthma patients in a timely way. However, these standardised weaning plans are not included in any guideline. Evidence suggests that higher use of short-acting beta-agonists (SABA) is associated with adverse clinical outcomes.[[1]](#footnote-1) The UK is an outlier in the use of salbutamol weaning compared to other western countries.

It is therefore important that the advice families receive about ongoing salbutamol use is given carefully, with consideration of the following:

* In standardised weaning plans, the perceived focus is more on the dose given at 4 hourly intervals rather than presence or absence of symptoms, an increasing or decreasing dose requirement and dose effect lasting 4 hours.
* Standardised prescriptive salbutamol weaning plans may mask deterioration in asthma control, which could be life threatening.[[2]](#footnote-2)[[3]](#footnote-3)
* The perceived need for reliever medication, which is a key warning sign, is lost with a standardised salbutamol weaning plan. Any increased need for SABA needs immediate attention.[[4]](#footnote-4)
* Standardised weaning plans may send a message that it is acceptable to use up to 60 puffs of salbutamol per day.[[5]](#footnote-5) Evidence suggests that some may use weaning plans pre-emptively at the start of a subsequent asthma attack to avoid going to A&E, seeing the prescriptive dosing regime as the treatment plan and thereby missing the clinical assessment they should receive. This approach carries significant risks for the child or young person.[[6]](#footnote-6)
* There is evidence that regular use of SABA, particularly at high doses is associated with adverse clinical outcomes and thus increase risk to the child or young person.[[7]](#footnote-7)
* A rigid 4-hourly plan may unnecessarily impact sleep, quality of life and when children are able to return to school.

Clinicians have been using weaning plans for many years so reassessing this practice represents a significant change. Education and support will be needed to ensure that staff working at all levels are aware of the risks associated with high doses of regular salbutamol outlined above, and that such weaning plans are unlicenced. **We recommend that more emphasis be given to signs of deterioration occurring within 4 hours of the previous salbutamol dose, which necessitates urgent consultation with a doctor or trained asthma nurse.**

We recommend that the following be incorporated into post asthma attack treatment plans as an alternative. A review should take place 48 hours after discharge with a follow-up appointment within 4 weeks for a full asthma review. The recommendation is relevant regardless of setting. It applies only to patients who have been stabilised and will now be managing their own care at home.

### Implementation

This change in practice should be implemented as soon as practicable, alongside training and education where required.

### Engagement

This recommendation has been agreed and approved by the CYP Asthma clinical and commissioning leads from all five London ICSs, which are represented on LALIG. See below for details and the full membership of the group. It has been shared with the ICS asthma networks, the Pan-London CYP Asthma CNS Network (110+ members) and the North and South Paediatric Networks. These groups are supportive of the change. It was signed off by the London Clinical Advisory Group in January 2022.

## Post-attack/discharge plan

You/your child should now be improving as a result of the steroid medication you/they have been given. The need for salbutamol (the blue reliever inhaler, used with a spacer) should be reducing.

* You/your child should take the **preventer medication as prescribed** by the health professional, according to your asthma plan.
* Take the blue reliever inhaler **as needed** if you/your child has any symptoms (these include wheeze, chest tightness, shortness of breath, cough and difficulty breathing). Give 2 puffs, one at time and wait 2 minutes, repeat if necessary until you have given up to 6 puffs. The symptoms should have disappeared. **The effects should last for at least 4 hours**.
* **If you/your child need(s) the blue reliever inhaler more than every four hours, your/your child’s asthma attack is not controlled and you need to take emergency action now. Take up to 10 puffs and seek urgent medical attention either by arranging an urgent appointment with your GP or if this is not possible by attending the Emergency Department.**
* **If you/your child is having difficulty breathing not relieved by 10 puffs of salbutamol or is requiring repeated doses of 10 puffs you should call 999.**
* You/your child should have a post-attack review with either your GP or asthma nurse to check you/your child are getting better within 48 hours. Please contact your GP surgery to arrange this.
* You will need to ensure that you/your child have a follow up appointment arranged either with your GP or in the asthma clinic within the next 4 weeks for a full asthma review.

# Appendix 1 – London Asthma Leadership and Implementation Group membership

ICS clinical leads appear in red and ICS CYP commissioning leads appear in green

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| Name | Affiliation |
| Oliver Anglin (Chair) | Clinical Lead CYP programme NHSE, Chair NCL Asthma Network |
| Toyin Ajidele | NHS Waltham Forest |
| Sally Armstrong | Lead Nurse, Ealing CCG & Ealing CEPN |
| Noel Baxter | Primary Care Respiratory Society |
| Richard Baxter | GP, Albany Practice |
| Richard Chavasse | CYP Clinical Lead SWL CCG, and St George’s University Hospitals NHS Foundation Trust |
| Rahul Chodhari | Royal Free London NHS Foundation Trust |
| James Courtney | CYP Transformation Manager NHS North East London CCG |
| Maureen Fitzgerald | Deputy Director, Quality and Nursing, SWL CCG |
| Adam Croom | Asthma UK/British Lung Foundation |
| Louise Fleming | Chair Severe Asthma Group, and Royal Brompton & Harefield Hospitals Trust |
| Michael Griffiths | CYP and Maternity Programme Delivery Manager, North West London CCG |
| Stephen Goldring | Chair North West London Asthma Network, and Hillingdon Hospitals NHS Foundation Trust |
| Jonathan Grigg | Blizard Institute QMUL, Barts & the London |
| Chris Griffiths | Blizard Institute QMUL, Barts & the London |
| Atul Gupta | Chair / Clinical lead of SEL Paediatric Asthma Network, and Kings College Hospital |
| Lynda Hassell | Chair North East London Asthma Network, and Barking Havering & Redbridge University Hospitals NHS Trust |
| Georgie Herskovits | CYP Programme, NHSE |
| Patrick Hunter | London Ambulance Service |
| Richard Iles | Asthma advisor to SEL Paediatric Asthma Network |
| Chris Kirkpatrick | CYP Programme, NHSE |
| Rosamund Kissi-Debrah | Parent/ Expert by experience |
| Mark Levy | NHSE/I CYP Transformation, Digital workstream lead |
| Rachel Lundy | NHSE/I CYP Transformation |
| Sukeshi Makhecha | Royal Brompton & Harefield Hospitals Trust |
| John Moreiras | Whittington Health NHS Trust |
| Sophie Morris | CYP Transformation Manager, NHS South East London CCG |
| Mike Mortlock | Camden Council |
| Nayab Nasir | UK Health Security Agency |
| Sara Nelson | CYP Programme, NHSE |
| Chin Nwokoro | Barts Health NHS Trust |
| Richard Owen | NHSE/I |
| Tom Parkes | Camden Council |
| Meredith Robertson | Guys and St Thomas NHS Foundation Trust |
| Monique Rodesano | Whittington Hospital NHS Trust |
| Sam Rostom | Programme Director, Children and Young People, North Central London CCG |
| Gloria Rowland | Chief Nurse, NHS South West London CCG |
| Jenny Selway | London Borough of Bromley |
| Alice Stephens | Barts Health NHS Trust |
| Alison Summerfield | Hillingdon Hospitals NHS Foundation Trust |
| Seema Sukhani | Great Ormond St Hospital for Children NHS Foundation Trust |
| Andrew Turnbull | Great Ormond St Hospital for Children NHS Foundation Trust |
| Deborah Waddell | Asthma UK/British Lung Foundation |

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1. [SALBUTAMOL | Drug | BNFc content published by NICE](https://bnfc.nice.org.uk/drug/salbutamol.html#cautions) [↑](#footnote-ref-1)
2. The Global Strategy for Asthma Management and Prevention, Global Initiative for Asthma (GINA).2021 Available from: [http://www.ginasthma.org](http://www.ginasthma.org/). [↑](#footnote-ref-2)
3. Why asthma still kills: the National Review of Asthma Deaths (NRAD) Confidential Enquiry report Royal College of Physicians. London; 2014 [Available from: <https://www.rcplondon.ac.uk/projects/outputs/why-asthma-still-kills> [↑](#footnote-ref-3)
4. From [SALBUTAMOL | Drug | BNFc content published by NICE:](https://bnfc.nice.org.uk/drug/salbutamol.html) *For inhalation by aerosol or dry powder*, advise patients and carers not to exceed prescribed dose and to follow manufacturer’s directions; if a previously effective dose of inhaled salbutamol fails to provide at least 3 hours relief, a doctor’s advice should be obtained as soon as possible. [↑](#footnote-ref-4)
5. Licence instructions for Ventolin: <https://www.medicines.org.uk/emc/product/850/smpc#gref> clearly state that (apart for emergency treatment of attacks) it is licenced for 2 puffs 4 times a day when needed. [↑](#footnote-ref-5)
6. [SALBUTAMOL | Drug | BNFc content published by NICE](https://bnfc.nice.org.uk/drug/salbutamol.html#cautions) [↑](#footnote-ref-6)
7. [SALBUTAMOL | Drug | BNFc content published by NICE](https://bnfc.nice.org.uk/drug/salbutamol.html#cautions) [↑](#footnote-ref-7)