






**STANDARD OPERATING PROCEDURE FOR THE ASSESSMENT AND MANAGEMENT
OF MILD ASTHMA BY THE ADVANCED NURSE PRACTITIONER
IN THE EMERGENCY DEPARTMENT**


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Document Name: SOP for The Assessment and Management of Mild Asthma by The Advanced Nurse Practitioner In The Emergency Department		
Reference Number: AMMAANPED-07-2019-V1	Version Number: Version 1	
Date of Issue: July 2019	Page 2 of 8	

CONTENTS

	Page Number
1.0 Introduction	3
2.0 Definition of Standard Operating Procedure	3
3.0 Applicable to	3
4.0 Authorisation	3
5.0 Procedure	3
6.0 Guidelines	3
References (as per necessary)	7

Children's Health Ireland		
Document Name: SOP for The Assessment and Management of Mild Asthma by The Advanced Nurse Practitioner In The Emergency Department		
Reference Number: AMMAANPED-07-2019-V1	Version Number: Version 1	
Date of Issue: July 2019	Page 3 of 8	

1.0 Introduction

This Standard Operating Procedure (SOP) is intended to serve as a guide for the Registered Advanced Nurse Practitioner (RRANP) in Paediatric Emergency Department (PED) on the management of mild asthma. Standards of care are determined based on clinical data available and therefore are subject to change as scientific knowledge and technology advance and patterns of care evolve. Guidance in this document is aligned to and reflects guidance in the OLCHC (CHG in future) clinical practice guideline for management of acute Asthma.

The parameters of practice within these clinical practice guidelines should be considered as a guide only. The judgement regarding a clinical procedure or treatment plan must be made by the RRANP in Paediatric Emergency Medicine (PEM) in the light of clinical data presented combined with the best available evidence, diagnostic and treatment options available.

In making clinical decisions, the RRANP should remain cognisant of their level of expertise and scope of practice and take advantage of the expertise of other clinicians for consultation and inclusion into the training team to optimize patient care and discharge. This may involve consultation and/or direct referral or both.

2.0 Definition of Standard Operating Procedure

A Standard Operating Procedure (SOP) is a structured set of instructions, which highlights in writing what should be done, when, where and by whom. It is an established procedure which is to be followed in a given situation or when carrying out a certain operation.

3.0 Applicable to

This SOP is intended for use by the RANP in the Paediatric Emergency Department (PED) in CHI at Crumlin only. It is applicable to the Advanced Nurse Practitioner in the EMERGENCY DEPARTMENT, only.

The RANP in the PED will provide accurate assessment and appropriate treatment in a timely manner for children presenting with mild asthma. These patients can often be assessed, treated and discharged safely in a timely manner.


The RANP must utilise the expertise of other clinicians for consultation and must take advantage of the inclusion into the training team to optimise patient care and discharge. This may involve direct consultation and/or referral or both. Children requiring ongoing care and possible intervention will need their care discussed with the Consultant in Paediatric Emergency Medicine or senior emergency department doctor on duty.

4.0 Authorisation

This SOP is authorised for use by the Consultants in Paediatric Emergency Medicine (PEM).

5.0 Procedure

The RANP in the PED provides accurate assessment and appropriate treatment in a timely manner for children presenting with mild asthma.

Children's Health Ireland		
Document Name: SOP for The Assessment and Management of Mild Asthma by The Advanced Nurse Practitioner In The Emergency Department		
Reference Number: AMMAANPED-07-2019-V1	Version Number: Version 1	
Date of Issue: July 2019	Page 4 of 8	

5.1 Introduction

Asthma is a significant health problem worldwide, and it is the most common chronic disease of childhood. HSE states 'Asthma affects around one out of every five children in Ireland'. Asthma is traditionally defined as an intermittent, reversible obstructive airway disease. It is now known to be a chronic inflammatory disorder of the airways. Clinically it manifests as recurrent episodes of wheezing, dyspnoea, chest tightness, and cough. These episodes are associated with variable airflow obstruction that is usually reversible.

5.2 Medical Consultation

The RANP will assess and initially treat children presenting to the ED with mild exacerbation of their asthma. If children present with moderate, severe or critical asthma to the ED, the RANP is aware that these children are not yet within his scope of practice and therefore need for medical consultation/ referral for ongoing treatment will be requested.

5.3 Inclusion / Exclusion criteria

INCLUSION:

- Children over the age of 12 months, with a previous diagnosis of Asthma
- A mild exacerbation of their asthma as defined in the relevant section of this document
- Triage category 4 and 5

EXCLUSION:

- Systemically unwell
- Under the age of 12 months
- No previous diagnosis of Asthma or unexplained wheeze

5.3.1 Outcomes of care


The outcome of care for those children attending the RANP in PEM should include the following

- Children will be assessed, treated, diagnosed and cared for in a timely manner
- The child will be free of pain, infection or disability
- The child (age appropriate) and his/her parent/guardian will have a sound understanding of their illness care treatment provided, and receive a written action plan on discharge
- The RANP in PED will document the patients care
- Any referrals to other health care professionals are appropriate and timely
- The child and his/her parent/guardian are satisfied with the outcome of care by the RANP in PED

5.4 History

A family history of asthma, atopy, or allergic disease is common. Enquire specifically about the following:

- Duration and nature of symptoms
- Treatments used (relievers, preventers)
- Trigger factors (including upper respiratory tract infection, allergy, passive or active smoking)
- Pattern and course of previous acute episodes e.g. admission or ICU admissions

Children's Health Ireland		 Children's Health Ireland
Document Name: SOP for The Assessment and Management of Mild Asthma by The Advanced Nurse Practitioner In The Emergency Department		
Reference Number: AMMAANPED-07-2019-V1	Version Number: Version 1	
Date of Issue: July 2019	Page 5 of 8	

- Parental understanding of the treatment of acute episodes; and
- Consider other causes of wheeze e.g. bronchiolitis, aspiration, foreign body, anaphylaxis.
- Other factors such as compliance and Anaphylaxis
- Use of spacer devices and then a staff demonstration of technique used to deliver medication by parents

5.5 Examination

The most important parameters in the assessment of the severity of acute childhood asthma are general appearance, mental state and work of breathing (accessory muscle use, recession).

- Initial SaO₂ in air, heart rate and ability to talk are helpful but less reliable
- Wheeze intensity is not reliable.
- Asymmetry on auscultation is often found due to mucous plugging, but warrants consideration of foreign body or pneumothorax.
- A prolonged expiratory phase is often a very sensitive sign of diffuse small airway obstruction and will almost always be present, as will accessory muscle use.
- A comprehensive respiratory assessment will include: wheeze; recession; nasal flaring; patient positioning; rate, rhythm, depth and effort of breathing


5.6 Investigations

- Chest x-ray is not generally required, particularly in mild exacerbations (discuss with registrar / consultant if considering).
- Bloods are not required for assessment or management of mild exacerbations of asthma

5.7 Treatment

Mild asthma is defined and managed as per the OLCCH (CHG in future) clinical guideline on Asthma referenced below: *Always use an age / size appropriate spacer device*

Severity	Signs of Severity	Management
Mild	<ul style="list-style-type: none"> • Normal mental state • Subtle or no accessory muscle use/recession • O₂ saturation > 94% (may be normal even in severe asthma) • Able to talk normally 	<p>Salbutamol by Metered Dose Inhaler (MDI)/spacer 1 dose every 20 minutes for 1 hour and review 20 minutes after 3rd dose.</p> <p>(1 dose (100 microgram/puff) = 6 puffs if < 6 years old, 12 puffs if >6 years old)</p> <ul style="list-style-type: none"> • Ensure device / technique appropriate • Good response - discharge on oral steroid and β₂-agonist as needed. • Poor response - treat as moderate – refer to registrar or PEM consultant. <p>Oral prednisolone (1 mg/kg daily (max. 40mg/day) for 3 days – if patients presents to ED within days of recent discharge, then discuss with consultant before prescribing second course of oral steroids.</p> <p>Provide written advice on what to do if symptoms worsen. Consider overall control and family's knowledge. Arrange follow-up as appropriate e.g. to Asthma Nurse/GP</p>

Children's Health Ireland		
Document Name: SOP for The Assessment and Management of Mild Asthma by The Advanced Nurse Practitioner In The Emergency Department		
Reference Number: AMMAANPED-07-2019-V1	Version Number: Version 1	
Date of Issue: July 2019	Page 6 of 8	

Long Term Asthma Control

- The frequency of acute episodes and any chronic symptoms should be reviewed.
- Specific questions should be asked about sleep disturbance (due to asthma), early morning symptoms, exercise induced cough or wheeze, and frequency of bronchodilator use.
- **If suboptimal long term control is queried, discuss with registrar or PEM consultant**

5.8 Preventive Treatment


- If there are frequent (occurring more often than every six weeks) acute episodes or chronic symptoms (more than one disturbed night per week, difficulty participating in physical activities, or bronchodilator use on more than two days per week), then preventative treatment may be indicated. **In this instance patient must be reviewed by ED registrar / PEM consultant** prior to commencing any long-term treatment.

5.9 Spacers

Careful attention must be paid to the delivery system chosen to deliver both acute bronchodilators and preventative inhaled treatments, taking into account age and developmental status. Spacer devices should always be used with MDIs. A low volume spacer device with a well-sealing facemask should be used in younger children e.g. *Aerochamber* and a large volume spacer e.g. *Volumatic*, for older children and adolescents. The important of demonstrating and checking parental technique is an extremely important part of the consultation in the ED as correct technique is critical to effectively treat asthma.

5.10 Discharge

- Every child who receives burst therapy requires a period of observation post treatment to ensure they are appropriate for discharge; this may be as long as 2-4 hours post treatment to ensure they are appropriate to follow a discharge plan, which will advise treatment at 4 hourly intervals.
- Patient can be discharged home when:
 - respiratory observations are within normal range
 - Maintaining O₂ saturation ≥94% in room air
 - Stable on 4 hourly Salbutamol given via MDI and spacer
 - Education in the use and care of MDI; and ensure competence
- Each child should have a written individual asthma discharge plan
- **'Step down' beta-agonist** treatment can be as follows:
 - 6 to 12 puffs (depending on age) four times daily for Day One; followed by
 - 4 to 8 puffs four times daily for Day Two; followed by
 - 2 to 4 puffs twice daily for Day Three; followed by
 - normal baseline treatment (for most patients this will be on a PRN basis only)
- Observe inhaler technique before discharge. Teaching inhaler technique should begin as early as possible.
- Give the patient an appropriate prescription (may include steroid, inhaler and if needed spacer).
- Advise parents to seek further medical attention should the patient's condition deteriorate or if there is no significant improvement within 48 hours.

Children's Health Ireland		
Document Name: SOP for The Assessment and Management of Mild Asthma by The Advanced Nurse Practitioner In The Emergency Department		
Reference Number: AMMAANPED-07-2019-V1	Version Number: Version 1	
Date of Issue: July 2019	Page 7 of 8	

- Parents should be informed of other sources of information about asthma such as the Asthma Foundation.

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