2-15-2021

Focused summary (2021) of updated guidelines for asthma management of children ages 5 to 11 years

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Comparative Doses of Generic and Brand Name Inhaled Corticosteroids

Reassess uncontrolled asthma every 2 to 6 weeks until good control is achieved.

Use lowest dose needed to keep asthma well controlled. Consider step down if controlled for > 3 months

Generic name	Monotherapy Brand names	Brand names with LABA	Rx	ICS Dose	Dosing Ages 0-4 yrs	Dosing Ages 5-11 yrs	Dosing Ages 12+ yrs
Budesonide DPI **+/- Formoterol**	**No LABA:** Pulmicort	**+ Formoterol:** Symbicort	2x day	Low: Med: High:	*Nebules*: 0.25-0.5 mg >0.5-1 mg >1 mg:	- 180-360 mcg >360-720 mcg >720 mcg	- 180-540 mcg >540-1080 mcg >1080 mcg
Beclomethasone MDI	**No LABA:** Qvar		2x day	Low: Med: High:		80-160 mcg >160-320 mcg >320 mcg	80-240 mcg >240-480 mcg >480 mcg
Ciclesonide MDI	**No LABA:** Alvesco		2x day	Low: Med: High:		80-160 mcg >160-320 mcg >320 mcg	160-320 mcg >320-640 mcg >640 mcg
Flunisolide MDI	**No LABA:** Aerospan HFA		2x day	Low: Med: High:		160 mcg >160-480 mcg >480 mcg	320 mcg >320-640 mcg >640 mcg
Fluticasone Propionate MDI **+/- Salmeterol**	**No LABA:** Flovent HFA	**+ Salmeterol:** Advair HFA	2x day	Low: Med: High:	176 mcg >176-352 mcg >352 mcg	88-176 mcg >176-352 mcg >352 mcg	88-264 mcg >264-440 mcg >440 mcg
Fluticasone Propionate DPI **+/- Salmeterol**	**No LABA:** Flovent Diskus ArmonAir	**+ Salmeterol:** Advair Diskus Airduo Wixela	2x day	Low: Med: High:		100-200 mcg >200-400 mcg >400 mcg	100-300 mcg >300-500 mcg >500 mcg
Fluticasone Furoate DPI **+/- Vilanterol**	**No LABA:** Arnuity Ellipta	**+ Vilanterol:** *Breo *For 18+ yrs	1x day	Low: Med: High:			No low dose 100 mcg >100 mcg
Mometasone DPI **+/- Formoterol**	**No LABA:** Asmanex	**+ Formoterol:** Dulera	1x day or 2x day	Low: Med: High:		110 mcg 220-440 mcg >440 mcg	110-220 mcg >220-440 mcg >440 mcg

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Key points for patient and family education and self-management training:

1. Symptoms of asthma indicate "**swelling**" (inflammation) in lungs. Chronic inflammation causes "**scarring**" over time (remodeling). Emphasize symptoms > twice a week can lead to permanent scarring in the lungs.
2. Review medication types - Rescue and Control. Emphasize only control medication can "stop the scarring" and protect long term lung functioning. Control medication takes days to weeks to work. Explain that decreased swelling = fewer symptoms = less need for/dependence on SABA over time.
3. Emphasize that asthma inhalers only work if taken correctly - "Get it in and keep it in." It is critical to explain, model, and require return demonstration of inhaler technique over multiple visits. Use spacer for all ages.
4. Help establish an easy to follow routine: Keep inhalers in high visibility/access locations (ex. with toothbrush).
5. Encourage using a digital peak flow meter to help patient understand effect of inflammation in the lungs.

Mammen, J.R. (2021) University of Rhode Island. Adapted from Expert Panel Report (EPR) 3, EPR4 (2020 update) guidelines for management of asthma and the Global Initiative for Asthma (GINA) 2020 Pocket Guide for Asthma Management and Prevention. This brief guide is a general summary and does not represent the entirety of the EPR3, EPR4 or GINA guidelines. For additional details please refer to the full guidelines. **Version date: 2/19/2021**

Focused Summary of Asthma Guidelines (2021) Pocket Guide for Clinicians

For ages 5-11 years

This brief clinical guide for the management of asthma is based on the Expert Panel Report 3 and 4 (draft) and GINA 2020 report and other current asthma research.

Use caution in assessing asthma symptoms. Many patients do not report "normal" symptoms and may ration inhaler use even when symptomatic. Consider using an approach like the following, and do not rely on frequency of SABA use as a conclusive measure of asthma control.

In general over the past 1 to 4 weeks:

1. How many days a week do you have any symptoms of recurrent coughing, wheezing, chest tightness/pain or repetitive throat clearing?
2. How many nights a week do you wake up from your asthma symptoms?
3. Has asthma limited your activity in any way lately?
4. What medication are you currently taking for your asthma and how do you take it?
5. How many times did you need to use your rescue inhaler for symptoms?
6. Do you always take your rescue inhaler when you have symptoms or do you wait?

COVID-19 guidance: avoid nebulizers or spirometry when possible to prevent aerosolizing virus.

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Intermittent Asthma

Management of Persistent Asthma in Individuals Ages 5 to 11 Years Old

Consult with asthma specialist if Step 4 or higher is needed.

Reassess uncontrolled asthma every 2 to 6 weeks until good control is achieved.

ICS = inhaled corticosteroid (ICS+LABA indicates combined/concomitant use of both medications
LABA = long acting beta agonist
LAMA = long acting muscarinic agonist
LTRA = leukotriene receptor agonist
OCS = oral systemic corticosteroid
SABA = short acting beta agonist

STEP 1

Intermittent

Preferred (EPR4):

- PRN SABA

Preferred (GINA):

- As needed low-dose ICS taken when SABA used

For acute symptoms:
2-6 puffs albuterol or 1 nebulizer; up to 3 treatments @ 20 minute intervals PRN;
may need OCS

STEP 2

Mild Persistent

Preferred EPR4 & GINA:

- Daily low-dose ICS and PRN SABA

Alternative EPR4 & GINA:

- Daily LTRA and PRN SABA

Alternative (GINA):

- As needed low-dose ICS taken when SABA used

STEP 3

Moderate Persistent

Preferred EPR4 & GINA:

- *Low-dose ***SMART**

Alternative options:

- Daily low-dose ICS+LABA and PRN SABA
- Daily medium-dose ICS and PRN SABA
- Daily low-dose ICS and LTRA and PRN SABA

STEP 4

Moderate Persistent

Preferred EPR4 & GINA:

- Medium-dose ***SMART**

Alternative options EPR4:

- Daily medium-dose ICS+LABA and PRN SABA
- Daily medium-dose ICS and LTRA and PRN SABA

Alternative GINA:

- High-dose ICS+LABA OR add LTRA or LAMA

STEP 5+

Severe Persistent

Preferred EPR4:

- High dose ICS+LABA and PRN SABA
- GINA: Refer for expert consult

Alternative options EPR4:

- Daily high-dose ICS+LABA and PRN SABA
- Daily high-dose ICS and LTRA and PRN SABA
- **For other options: see guidelines**

FDA issued Boxed Warning for montelukast in March 2020

***SMART - Single Maintenance and Reliever Therapy (currently off label in U.S.):** Preferred for all patients at step 3 to 4;
SMART is combined ICS + formoterol (LABA) given daily for control PLUS as needed for symptoms (up to **8** total puffs per day for ages 5 to 11 years old).

Classifying Asthma Severity in Individuals Ages 5 to 11 Years Old

Assess severity BEFORE start of controller therapy based on symptoms, OR estimated based on level of stepwise therapy PLUS current level of control.

Intermittent	Mild Persistent	Moderate Persistent	Severe Persistent
Symptoms:	**Symptoms:**	**Symptoms:**	**Symptoms:**
Days: once a day ≤2 days/wk	>2 days/wk OR >2x ≤2 days/wk	**Days:** most days/everyday (but not throughout the day)	**Days**: throughout the day
Wake up: <2/month	**Wake up**: 3 - 4/month	**Wake up:** >1/week but not nightly; ***(≥2/week is VPC)**	**Wake up:** often nightly
Activity: no limitations	**Activity**: minor limitations	**Activity**: some limitations	**Activity**: extremely limited
PEF or FEV1: > 80%	**PEF** or FEV1: > 80%	**PEF** or FEV1: 60 - 80%	**PEF** or FEV1: < 60%
SABA: ≤2 times/wk	**SABA**: >2 times/wk	**SABA**: Daily	**SABA**: several times daily
Well controlled	**Not well controlled (NWC)**	oral/systemic steroid use > 1 x year	**Very poorly controlled (VPC)**

Assess and document severity and control at every visit. Control corresponds with highest level of current symptoms in any box.

Classifying Asthma Control in Individuals Ages 5 to 11 Years Old

Version date: 2/19/2021