

Pediatric Asthma and Obesity

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Declaration

- No conflicts of interest to declare



Learning objectives

1. Describe how to diagnose pediatric asthma and develop a treatment plan
2. Discuss how to communicate/discuss weight with a child and their parent appropriately
3. Recommend a treatment plan for a pediatric patient that lives at a higher weight

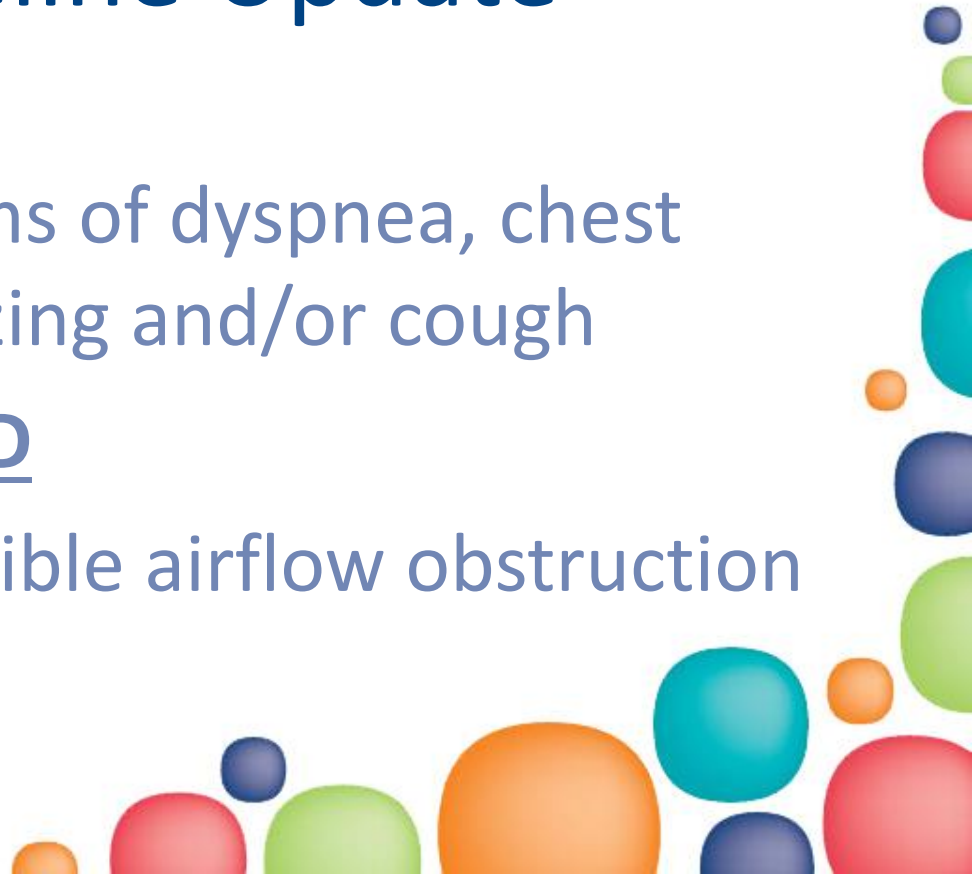


Diagnosis and management of Asthma in preschoolers, children and adults: Canadian Thoracic Society 2021 Guideline Update

Persistent symptoms of dyspnea, chest
tightness, wheezing and/or cough

AND

Confirmation of reversible airflow obstruction

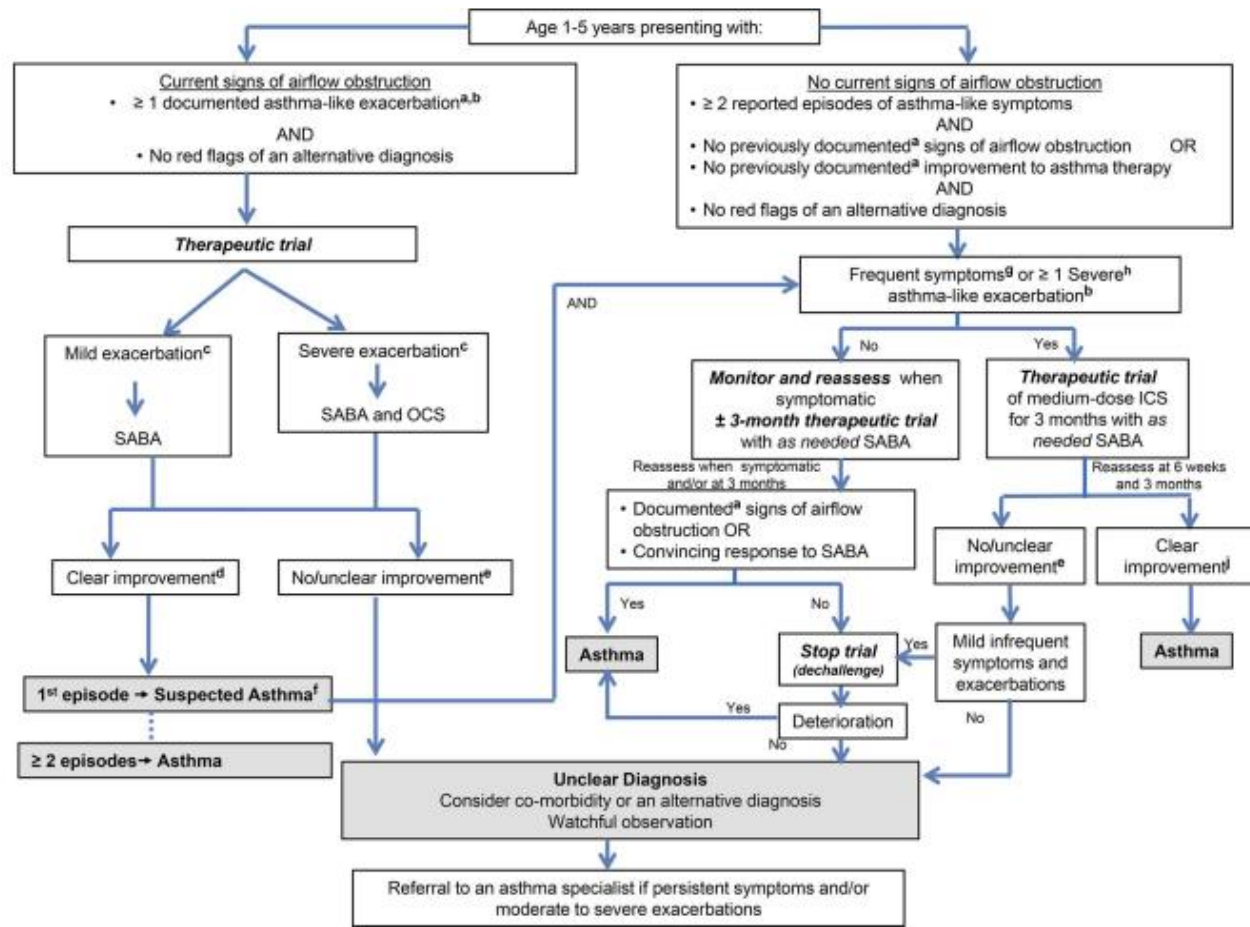


Clinical History and Confirmation of Reversible Airflow Obstruction: 1-5 years of age

Preferred	Alternative
Documentation by trained health care provider of wheeze and other signs of airflow obstruction with documented improvement with SABA +/- oral corticosteroids	Symptomatic response to 3 month trial medium dose ICS and as needed SABA or symptomatic response to SABA



Diagnosis algorithm for children 1-5 years of age



Clinical History and Confirmation of Reversible Airflow Obstruction: 6 - 17 years of age

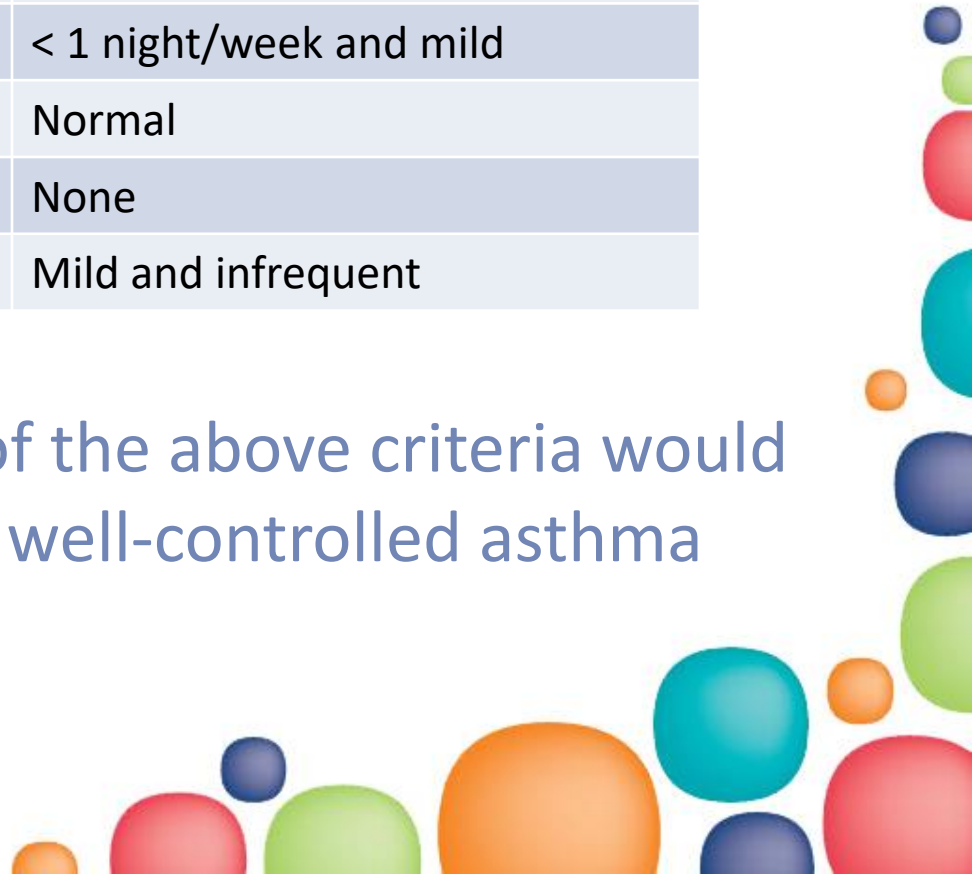
Preferred	Alternative
Spirometry $FEV_1/FVC < LLN$ <u>AND</u> Increase in FEV_1 post bronchodilator or after a course of controller therapy of $\geq 12\%$	Peak expiratory flow $\geq 20\%$ increase after bronchodilator or after a course of controller therapy



Asthma Control Criteria

Characteristic	Frequency
Daytime symptoms	≤ 2 days/week
Need for reliever	\leq doses/week
Nighttime symptoms	< 1 night/week and mild
Physical activity	Normal
Missed school due to asthma	None
Exacerbations	Mild and infrequent

A patient who meets all of the above criteria would be considered to have well-controlled asthma



Summary of 2021 changes

1. Treatment for very mild asthma
2. Treatment for mild asthma
3. Assessing risk of exacerbation in addition to asthma control
4. Change in control criteria for daytime symptoms and frequency of reliever need
5. Clarification for criteria of mild vs severe asthma exacerbation
6. Update of severity classification
7. Asthma continuum and ICS dosing table



Treatment for very mild asthma

PRN SABA and well-controlled at high risk for exacerbation should escalate treatment to daily ICS + PRN SABA (all ages)

or

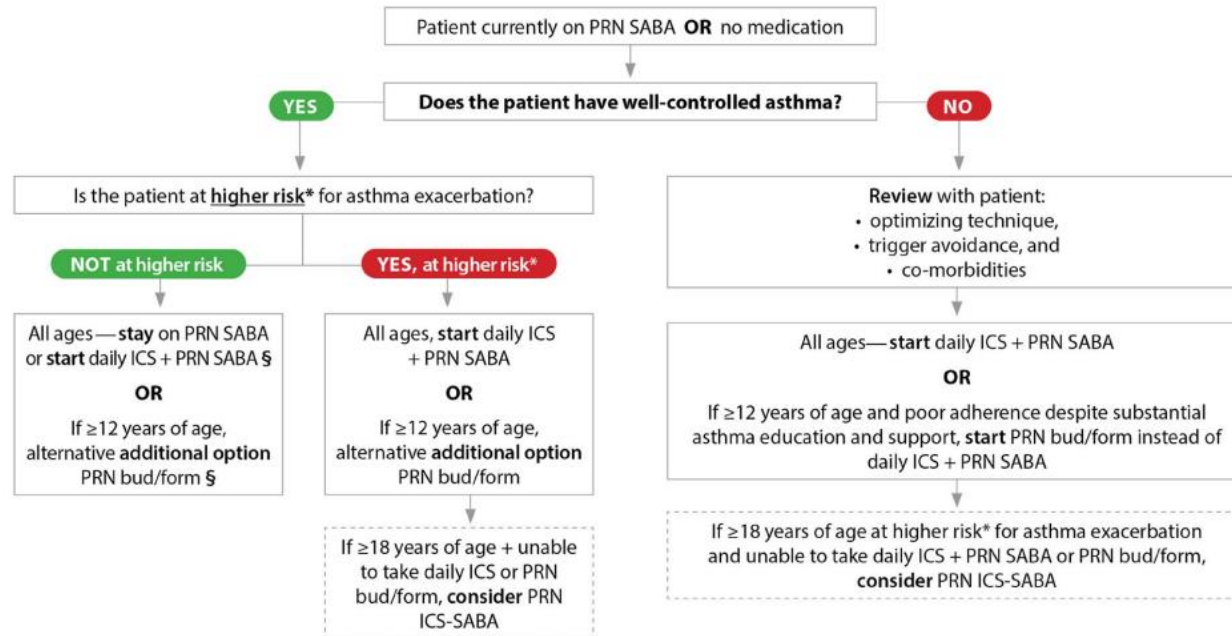
PRN budesonide/formoterol $\geq 12y$

Also an option:

PRN SABA and well-controlled consider daily ICS (all ages) or PRN bud/form ($\geq 12y$) for better control and decrease risk of exacerbation



Treatment approach for patients on PRN SABA or NO medication



*Higher risk if a patient had any of the following:

- 1) any history of a previous severe asthma exacerbation requiring:
 - systemic steroids,
 - ED visit, or
 - hospitalization
- 2) poorly-controlled asthma as per CTS criteria
- 3) overuse of short-acting beta-agonist (defined as use of more than two inhalers of SABA in a year)
- 4) current smoker

§ Based on patient preference—the decision to switch from PRN SABA to daily ICS + PRN SABA or PRN bud/form is for those that want better asthma control and to decrease their risk of exacerbation

⌋ Dash boxes represent harm reduction strategy

SABA: short-acting beta-agonist; ICS: inhaled corticosteroids; bud/form: budesonide-formoterol in a single inhaler; ED: emergency department



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Treatment for mild asthma

PRN SABA with poorly-controlled asthma
escalate treatment to daily ICS + PRN SABA

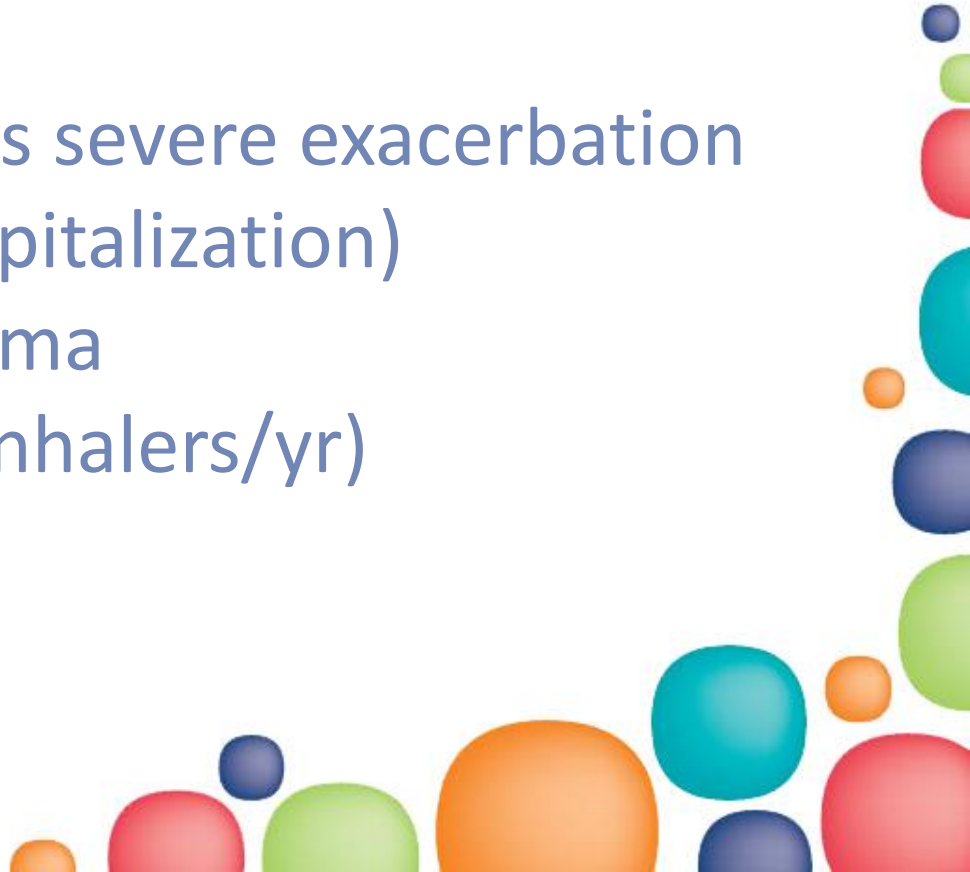
≥ 12 years of age with poor control on PRN SABA
with poor adherence to daily ICS
PRN budesonide/formoterol is recommended
over daily ICS + PRN SABA.



Assessing risk of exacerbation

Individuals with one risk factor below are at higher risk for asthma exacerbation:

- Any history of previous severe exacerbation (steroids, ED visit, hospitalization)
- Poorly controlled asthma
- Overuse of SABA (>2 inhalers/yr)
- Current smoker



Change in control criteria for daytime symptoms & frequency reliever need

Well-controlled asthma

- daytime symptoms ≤ 2 days per week
- need for reliever (SABA or PRN bud/form) ≤ 2 doses per week



Clarification for criteria of mild vs severe asthma exacerbation

Severe requires:

- Systemic steroids
- Emergency department visit
- Hospitalization

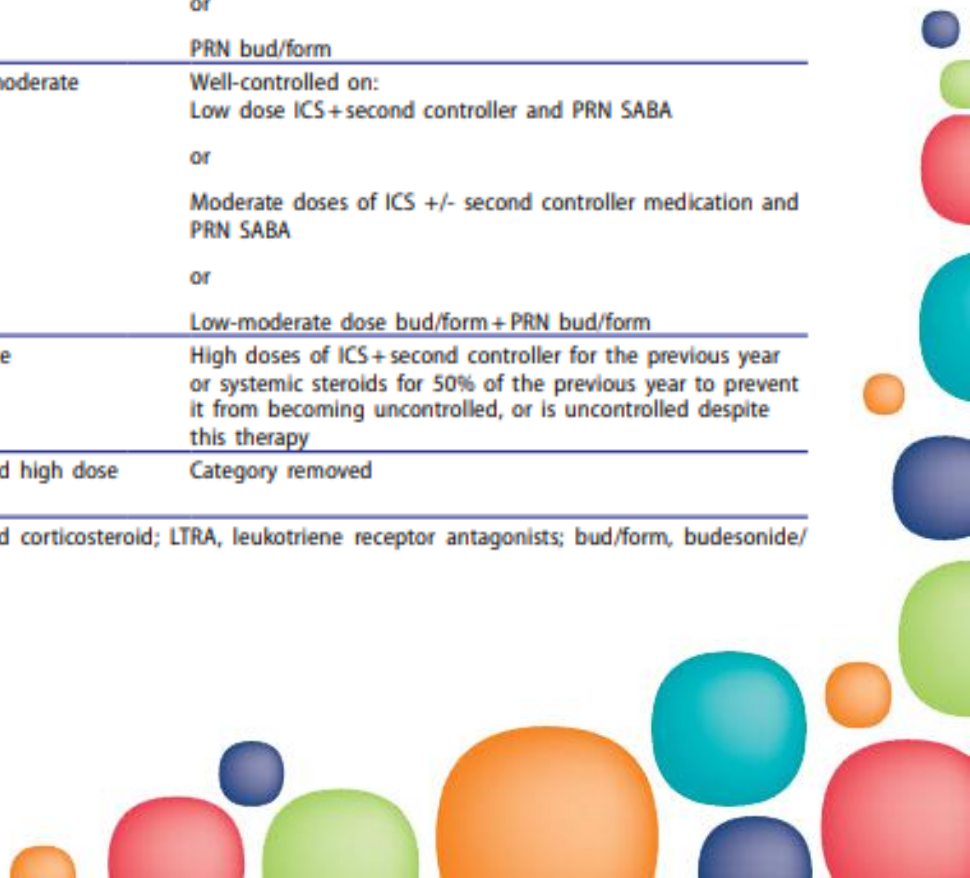


Update of severity classification

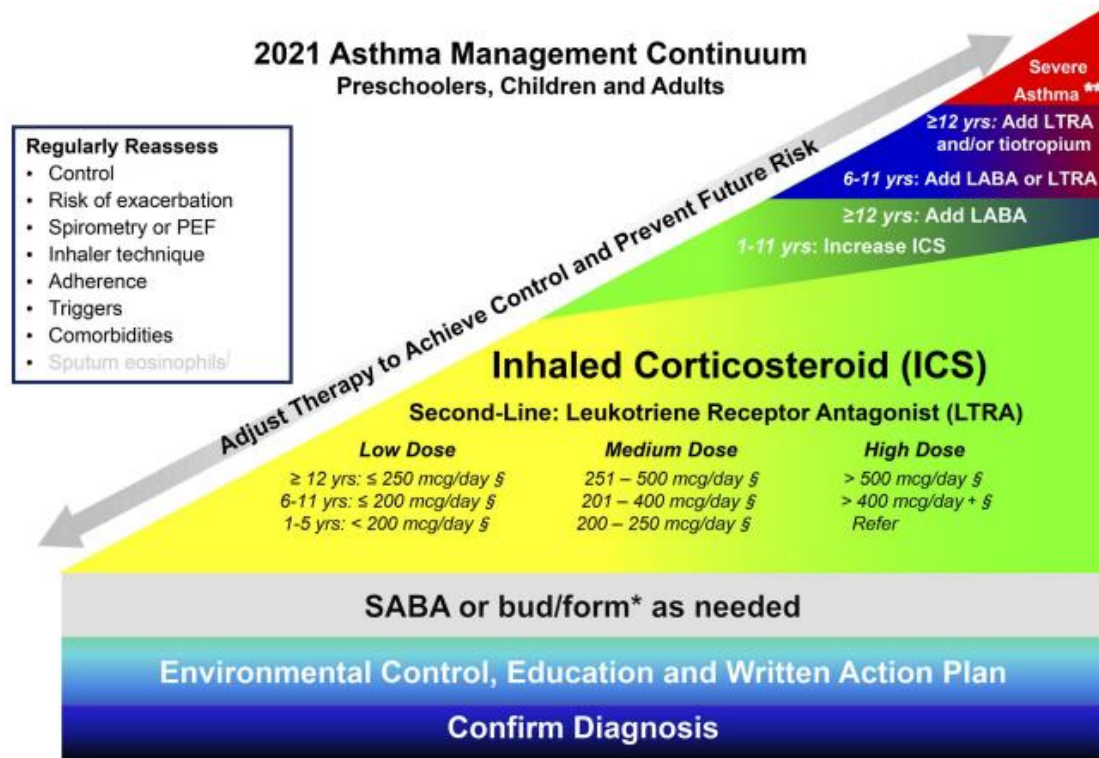
Table 10. Severity classification.

Asthma severity	Treatment required 1999	Treatment required 2021
Very mild	Well-controlled on no medication or inhaled SABA rarely	Well-controlled on PRN SABA
Mild	Well-controlled on SABA (occasionally) and low dose ICS	Well-controlled on: Low dose ICS (or LTRA) and PRN SABA or PRN bud/form
Moderate	Well-controlled on SABA and low to moderate dose ICS +/- additional therapy	Well-controlled on: Low dose ICS+second controller and PRN SABA or Moderate doses of ICS +/- second controller medication and PRN SABA or Low-moderate dose bud/form + PRN bud/form
Severe	Well-controlled on SABA and high dose ICS+additional therapy	High doses of ICS+second controller for the previous year or systemic steroids for 50% of the previous year to prevent it from becoming uncontrolled, or is uncontrolled despite this therapy
Very severe	Well- or poorly-controlled on SABA and high dose ICS+additional therapy + oral steroids	Category removed

Abbreviations: SABA, short-acting beta-agonist; PRN, as needed; ICS, inhaled corticosteroid; LTRA, leukotriene receptor antagonists; bud/form, budesonide/formoterol.



Asthma Continuum



* Or an alternative ICS/form preparation if another is approved for use as a reliever in the future. Bud/form is approved as a reliever for ≥12 years of age and should only be used as a reliever in individuals using it as monotherapy or in conjunction with bud/form maintenance therapy

§ HFA Fluticasone propionate or equivalent

† Not approved for use in Canada

‡ In adults, 18 years of age and over with moderate to severe asthma assessed in specialist centres

** For severe asthma refer to CTS 2017 Recognition and management of Severe Asthma Position Statement

Figure 2. 2021 Asthma continuum.



ICS Dosing Table

Table 8. Comparative inhaled corticosteroids (ICS) dosing categories in preschoolers, children and adults.

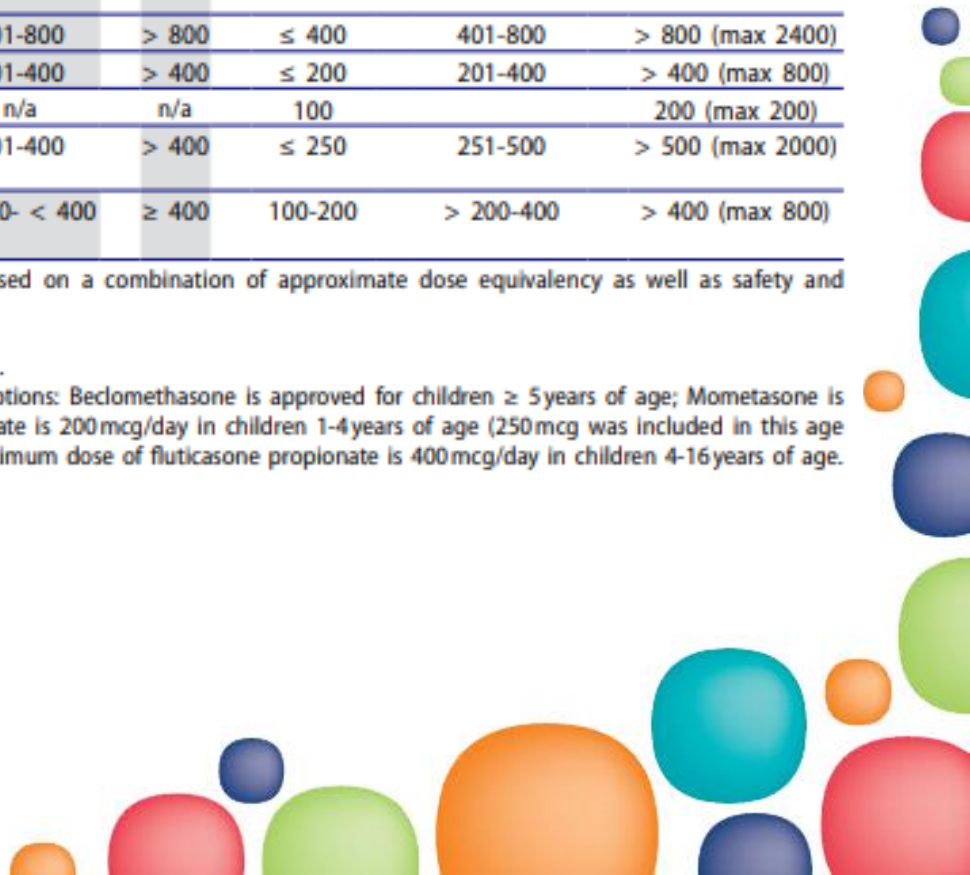
Corticosteroid (tradename)	Preschoolers (1-5 years of age)		Children (6-11 years of age)			Adults and Adolescents (12 years of age and over)		
	Low	Medium	Low	Medium	High	Low	Medium	High **
Beclomethasone dipropionate HFA (QVAR)	100	200	≤ 200	201-400	> 400	≤ 200	201-500	> 500 (max 800)
Budesonide* (Pulmicort)	n/a	n/a	≤ 400	401-800	> 800	≤ 400	401-800	> 800 (max 2400)
Ciclesonide* (Alvesco)	100	200	≤ 200	201-400	> 400	≤ 200	201-400	> 400 (max 800)
Fluticasone furoate* (Arnuity)	n/a	n/a	n/a	n/a	n/a	100		200 (max 200)
Fluticasone propionate (Flovent)	< 200	200-250	≤ 200	201-400	> 400	≤ 250	251-500	> 500 (max 2000)
Mometasone furoate* (Asmanex)	n/a	n/a	100	≥ 200- < 400	≥ 400	100-200	> 200-400	> 400 (max 800)

Note. Dosing is in micrograms (mcg), dosing categories are approximate, based on a combination of approximate dose equivalency as well as safety and efficacy data.

*Licensed for once daily dosing in Canada

**Maximum (max) doses are the maximum doses approved for use in Canada.

Doses highlighted are not approved for use in Canada with the following exceptions: Beclomethasone is approved for children ≥ 5 years of age; Mometasone is approved for children ≥ 4 years of age; Maximum dose of fluticasone propionate is 200mcg/day in children 1-4 years of age (250mcg was included in this age group because the 125mcg inhaler is often used for adherence and cost), Maximum dose of fluticasone propionate is 400mcg/day in children 4-16 years of age.



NEO Kids- BALANCE Program

Bringing **Active Living**
and **Nutrition** into your **Childhood**
Everyday



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What is the BALANCE Program?

- A family based healthy lifestyle program with focus on health habits NOT the # on the scale
- Provides support and strategies for parents in positive role modeling
- Helps with creating a home environment based on self-respect and dignity
- Tips for limiting sedentary and recreational screen time
- Offers opportunities for physical activity and healthy food choices



Our Approach

“Health at Every Size” - HAES©

HAES acknowledges that well-being and healthy habits are more important than any number on the scale.

Lindo Bacon www.lindobacon.com



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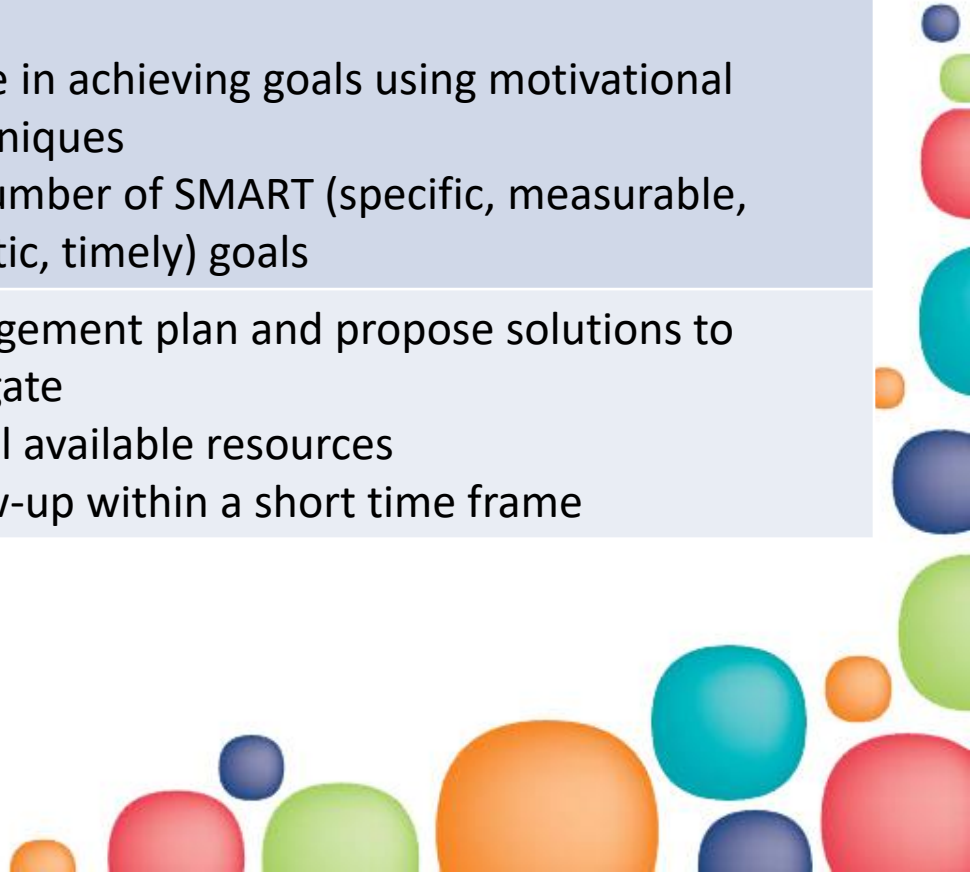
5 As of Pediatric Obesity Management

The 5 As	Approach
Ask	<ul style="list-style-type: none">• Ask permission to discuss child's weight, using a sensitive manner and being aware of weight bias and cultural influences• Be non- judgemental while gauging readiness to change
Assess	<ul style="list-style-type: none">• Underlying cause and contributing factors• Ask about enablers and barriers in weight management• Conduct physical and mental health assessment to address complications
Advise	<ul style="list-style-type: none">• Provide information about obesity related risks, investigations and treatments• Stress importance of achieving behavioural and health - related improvements rather than focusing primarily on weight loss



5 As of Pediatric Obesity Management cont'd...

The 5 As	Approach
Agree	<ul style="list-style-type: none">• Aim to have child and family choose behavioural goals themselves, with clinician or health care professional assistance• Assess confidence in achieving goals using motivational interviewing techniques• Agree on small number of SMART (specific, measurable, achievable, realistic, timely) goals
Assist	<ul style="list-style-type: none">• Summarize management plan and propose solutions to address and mitigate• Provide additional available resources• Arrange for follow-up within a short time frame

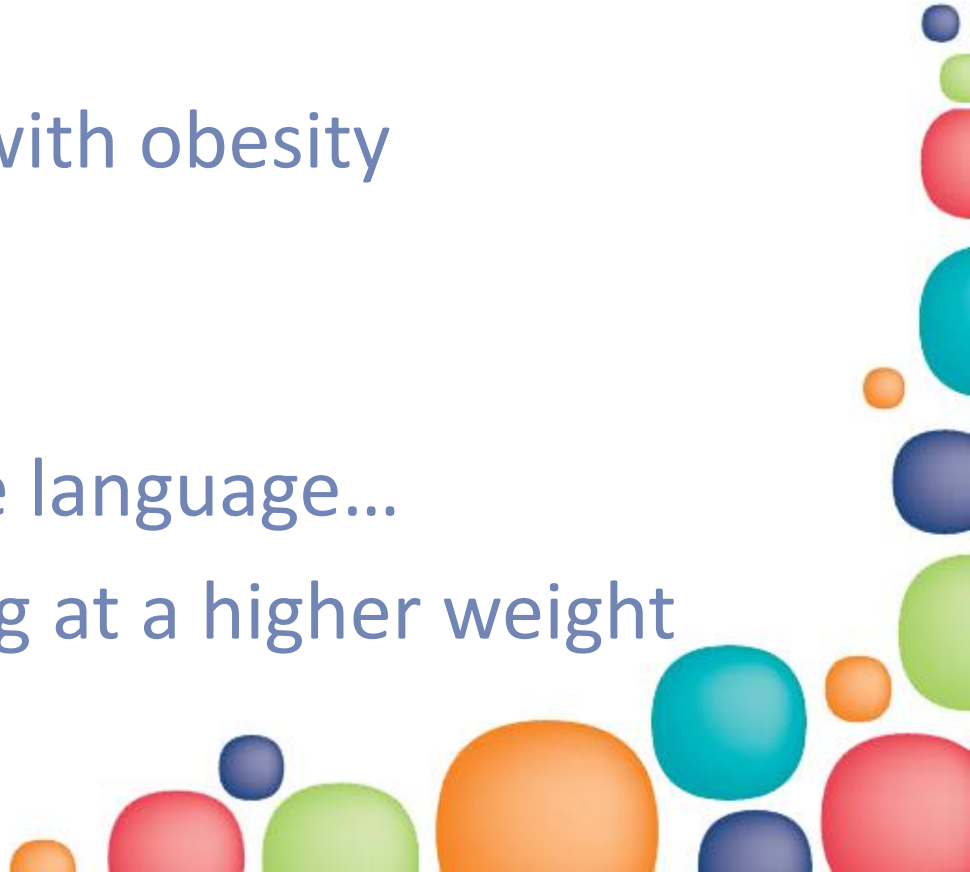


BMI/Language

- Child/adolescents with overweight (BMI $\geq 85\%$)
- Child/adolescents with obesity (BMI $\geq 95\%$)

We use the language...

Child/children living at a higher weight

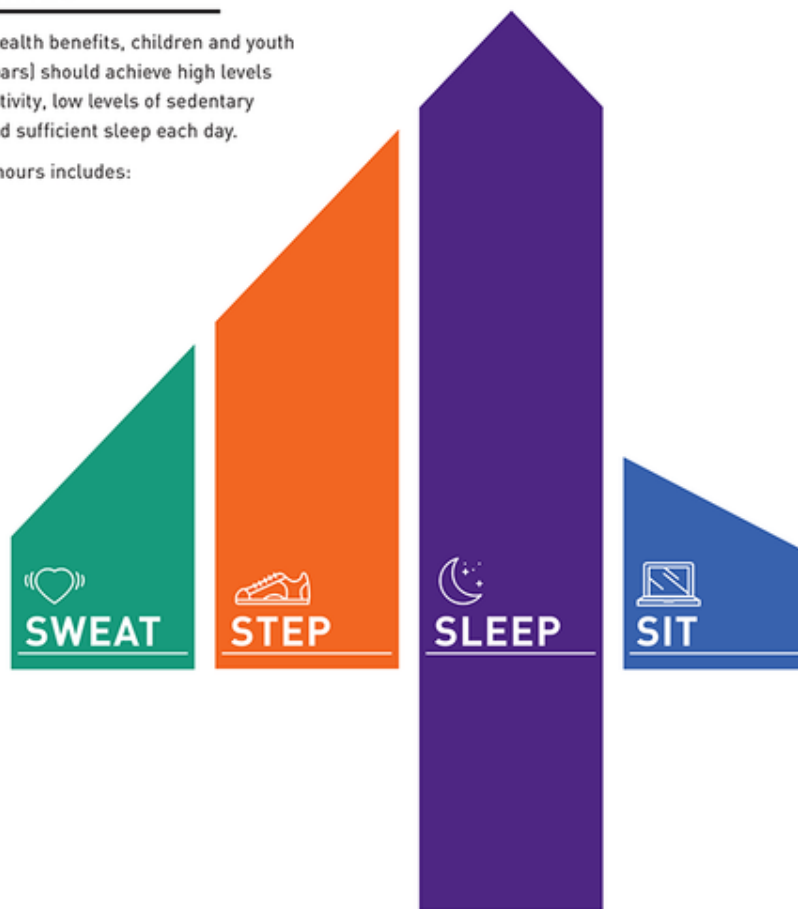


Canadian 24 hr Movement Guidelines

GUIDELINES

For optimal health benefits, children and youth (aged 5–17 years) should achieve high levels of physical activity, low levels of sedentary behaviour, and sufficient sleep each day.

A healthy 24 hours includes:



Preserving sufficient sleep, trading indoor time for outdoor time, and replacing sedentary behaviours and light physical activity with additional moderate to vigorous physical activity can provide greater health benefits.

SWEAT

MODERATE TO VIGOROUS PHYSICAL ACTIVITY

An accumulation of at least 60 minutes per day of moderate to vigorous physical activity involving a variety of aerobic activities. Vigorous physical activities, and muscle and bone strengthening activities should each be incorporated at least 3 days per week;

STEP

LIGHT PHYSICAL ACTIVITY

Several hours of a variety of structured and unstructured light physical activities;

SLEEP

SLEEP

Uninterrupted 9 to 11 hours of sleep per night for those aged 5–13 years and 8 to 10 hours per night for those aged 14–17 years, with consistent bed and wake-up times;

SIT

SEDENTARY BEHAVIOUR

No more than 2 hours per day of recreational screen time;
Limited sitting for extended periods.



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What can you do to help?

Screening blood work

- Fasting blood glucose (8 hr fast)
- HbA1c
- Fasting lipid panel
- ALT
- TSH

Indicate on referral blood work completed



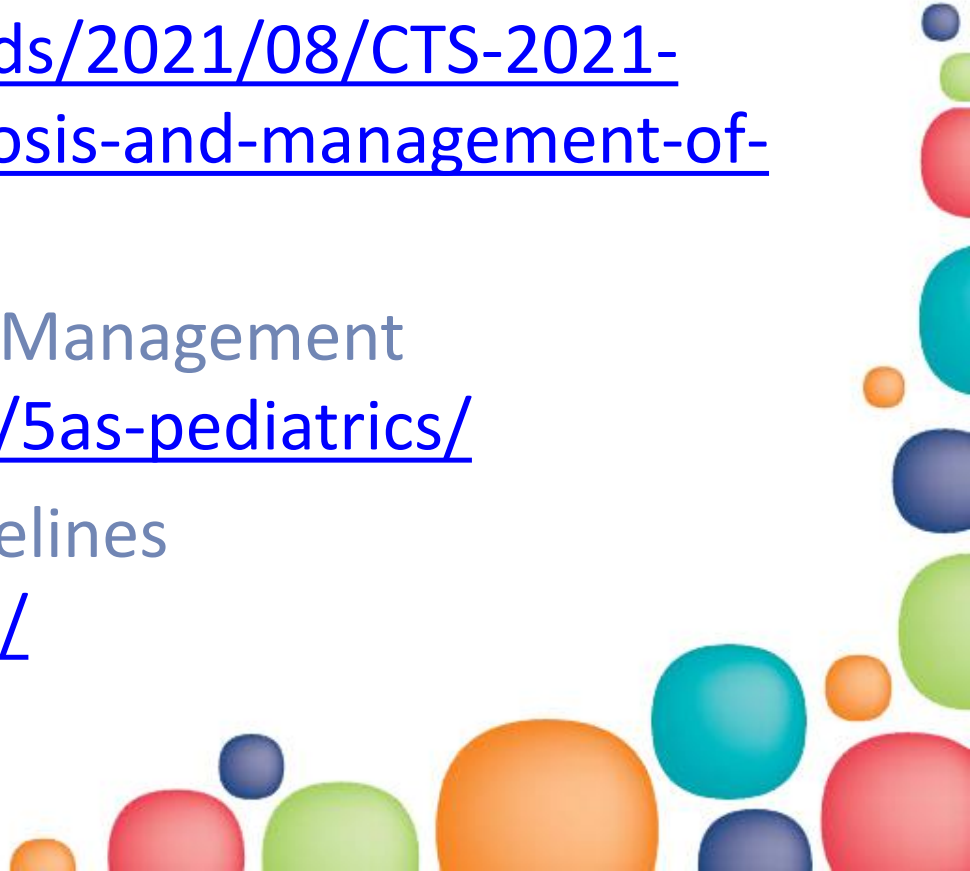
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References

- Canadian Thoracic Society 2021 Guideline Update: Diagnosis and management of asthma in preschoolers, children and adults. https://cts-sct.ca/wp-content/uploads/2021/08/CTS-2021-Guideline-Update_Diagnosis-and-management-of-asthma.pdf
- 5As for Pediatric Obesity Management <https://obesitycanada.ca/5as-pediatrics/>
- 24 Hour Movement Guidelines <https://csepguidelines.ca/>



Questions



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