

The authors and reviewers have made every attempt to ensure the information in this Family Medicine Clinical Card is correct - it is possible that errors may exist. Accordingly, the source references or other authorities should be consulted to aid in determining the assessment and management plan of patients. The Card is not meant to replace customized patient assessment nor clinical judgment. The Card is meant to highlight key considerations in particular clinical scenarios, largely informed by relevant guidelines in effect at the time of publication. The authors cannot assume any liability for patient outcomes when this card is used.

Canadian Family Medicine Clinical Card

A3 2012
www.cfpc.ca/sharcmf

Keegan DA
Kim G
Thornton TH



Asthma

Diagnosis

Children < 6 years old	Adults & Children ≥ 6 years old
<p>No firm criteria; these aid diagnosis:</p> <ul style="list-style-type: none"> - severe episode of wheezing/dyspnea - persistent wheezing/dyspnea/cough after 1 year old - chronic cough - improvement with asthma meds* <p>* If no improvement, search for other cause. Refer as required.</p>	<p>≥ 12% improvement in FEV₁ post [β₂-agonist or controller tx] and reduced FEV₁/FVC</p> <p>OR ≥ 20% variability in peak flow (PEF)</p> <p>OR clinical responsiveness to medications</p> <p><i>-Reserve methacholine challenge for difficult to diagnose situations.</i></p>

Check-Up

- Assess control: good control if following criteria are met

<ul style="list-style-type: none"> • no daytime symptoms • normal physical activity • no school/work absences • FEV₁ or Peak flow > 90% personal best 	<ul style="list-style-type: none"> • no nighttime symptoms • mild/infrequent exacerbations • < 4 doses β₂-agonist per week* <p>* not counting 1 dose/day for exercise sx</p>
---	---
- Observe & assess inhaled drug technique (use mask aerochamber if < 6 years old)

Routine Management

- Develop Asthma Action Plan with patient; involve asthma educator if available
- Address co-morbidities: rhinitis, GERD, obesity
- Environmental control:

<input type="checkbox"/> smoking cessation & avoidance
<input type="checkbox"/> dust/particle exposure reduction <input type="checkbox"/> allergy testing & allergen avoidance
- Maintenance Drug therapy: First line: All patients should have PRN fast-acting β₂-agonist (eg. salbutamol) AND inhaled corticosteroids (ICS) (ICS starting dose should be customized to patient's initial severity and age.)

Typical Age Dose Ranges (years)	DAILY equivalency	Beclo-methasone (Qvar device)	Fluticasone	Budesonide (turbuhaler device)	Ciclesonide (not for <6 years old)
0-6	Ultra low	100ug	100-125ug	100ug	100ug
6-11	Low dose	200ug	200-250ug	200ug	200ug
> 11	Medium	400ug	500ug	400ug	400ug
	High	> 400ug	> 500ug	>400ug	800ug

-if insufficient control, then consider:

- ☐ ↑ ICS dose ☐ adding long-acting β₂-agonist ☐ adding leukotriene antagonist

- Exacerbation: [A] determine (and resolve if possible) underlying cause:

<input type="checkbox"/> tobacco/irritant/allergen exposure	<input type="checkbox"/> resp. infection	<input type="checkbox"/> medication errors
---	--	--

[B] give oral systemic steroids

Kids: prednisone (or prednisolone) 1-2 mg/kg (up to 50mg/day) x 5 days
or dexamethasone 0.3-0.6 mg/kg x 1-5 days

Adults (and kids > 50kg): prednisone 50mg daily x 5 days

Emergency Management

- O₂ if hypoxic; activate EMS & arrange transportation to ED
- salbutamol by aerochamber (or nebulizer); often requires back-to-back dosing
- systemic steroids if initial SaO₂ <96% (children), <94%(adults)
- consider ipratropium bromide, MgSO₄
- if deteriorating, rule out pneumothorax and upper airway obstruction
- ↳ consider IV β₂-agonist, inhalational anaesthetics, intubation

Key References: Loughheed et al. Canadian Thoracic Society Asthma Management Continuum—2010 Consensus Summary for children six years of age and over, and adults. *Can. Resp. J.* Vol. 17(1), 2010 15-24./ Becker A et al. Summary of Recommendations from Canadian Pediatric Asthma Consensus Guidelines, 2003, *CMAJ* 2005, 173 (6 suppl):S1-S56.