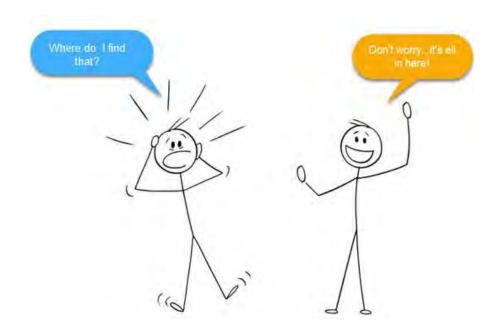




PEDIATRIC ASTHMA: TALK THE SAME TALK

Useful Links and Tools



Updated September 1, 2023

TALK THE SAME TALK USEFUL LINKS AND TOOLS Table of Contents

- Any content appearing in <u>blue</u> links directly to a website.
- To link quickly to a specific tool below, click on the item or use the bookmark links to the left of this page view.
- Looking for a specific topic? On your keyboard, press the "Ctrl" and "f" keys at the same time and a "Find/Search" box will appear.

	DOCUMENT TI	Source/Author				
Action Plans:	Alberta Action Plan	Little Asthma	Action Plan	Community Pediatric Asthma Service		
Anaphylaxis:						
Emerge	ency Plan			Food Allergy Canada		
How to	use an EpiPen			EpiPen Canada		
How to	use Allerject			Allerject Canada		
How to	use Emerade			Emerade Canada		
A wesome Asth	ma ResourcesOne	Click Away!		Community Pediatric Asthma Service		
B reathing Well	(and much, much mor	·e)		Belly Breathing		
				Cough Control, Vocalizing Ease		
				Chronic Throat Clearing		
				Dysfunctional Breathing (DB)		
				Exercise Induced Laryngeal Obstruction (EILO)		
				Inducible Laryngeal Obstruction (ILO)		
				Paradoxical Vocal Fold Motion (PVFM)		
				Vocal Cord Dysfunction (VCD)		
Canadian Thora	acic Society			2021 Guideline Update		
Device Sheets:	MDI	MDI with Mask	Diskus	Community Pediatric Asthma Service		
	Turbuhaler	Twisthaler	Ellipta			
	Nasal spray					
D oes my child h	nave asthma?			Community Pediatric Asthma Service		
Inhaled Cortico	steroids in Asthma			Community Pediatric Asthma Service		
N ijmegen Ques	tionnaire		Bradcliff Breathing Method			
Pediatric Respi	ratory Medication Guid	de	Community Pediatric Asthma Service			
Triggering Facto	ors		Dr. Louis-Philippe Boulet, Hospital Laval			
W hy Should I G	ive My Child Asthma	Medicine?		Community Pediatric Asthma Service		
W hen and Whe	re to Get Help			Community Pediatric Asthma Service		



Completed with:

My Name: What Matt		le:						_ Date:		
Circle My Triggers	smoke	colds	animals	pollens	mold	dust	strong smells	weather changes	strong emotions	?

Circle My Usual Symptoms: Cough / Wheeze / Short of Breath / Tight Chest / Other _

Is my asthma well controlled?







speaking, blue/grey lips/fingernails

1. Daytime symptoms	None	3 or more times a week	Continuous & getting worse	
2. Nighttime symptoms	None	1 or more times a week	Continuous & getting worse	
3. Reliever use (other than if prescribed for exercise)	None	3 or more times a week	Relief for less than 3 to 4 hours	
4. Physical activity or exercise	Normal	Limited	Very limited	
5. Can go to school or work	Yes	Maybe	No	

What to do:	STAY CONTROLLED & AVOID MY TRIGGERS	TAKE ACTION See a doctor if no improvement in days	GET HELP
Controller: Use EVERY DAY to control asthma and prevent flare-ups.	1. Take □ AM □ PM	Continue this dose for 1. Take AM PM	EMERGENCY (911 Notes:
(name / colour / strength) 2	2. Take AM PM	2. Take (amount)	
3	3. Take AM PM 4. Take AM PM	3. Take	
Reliever: Quickly and temporarily helps asthma symptoms. (name/colour/strength)	Take reliever before exercise? Yes Take as needed (# of puffs)	Continue this dose for as needed	Take 5 to 10 puffs of my reliever medicine every 10 to 20 minutes while I get help.

Patients can view this Asthma Action Plan at: www.myhealth.alberta.ca

Clinicians can download a fillable version of this Asthma Action Plan at: www.ucalgary.ca/icancontrolasthma

Steps to Control My Asthma

Avoid My Triggers

I avoid my triggers as an important step to control my asthma. I may need less medicine when I avoid my triggers and keep control of my asthma.



Take My Medicines

I take my medicines as directed by my doctor. This helps me lead an active life and have healthy lungs. My asthma medicines are safe and effective for controlling asthma.



Check My Technique

I bring my asthma medicines to every medical appointment to make sure I am using them correctly. I ask my healthcare team to review my technique, to make sure my lungs get the medicine they need to stay healthy. If I use a metered-dose inhaler (MDI), I should add-on a spacer to help the medicine get properly into my lungs.



Follow My Action Plan

I use my Asthma Action Plan to take ACTION early - this is the best way to get my asthma well controlled. I review my Asthma Action Plan with my healthcare team (doctor, asthma educator, pharmacist, nurse) **every 6 months**.



Asthma Control

(at any point in time):	·
 Do I cough, wheeze, or have a tight chest because of my asthma? 	☐ Yes ☐ No
2. Does coughing, wheezing, or chest tightness wake me at night?	☐ Yes ☐ No
3. Do I stop exercising because of my asthma?	Yes No
4. Do I miss work or school because of my asthma?	Yes No
5. Do I use my reliever medicine 3 or more times a week?	Yes No

My asthma is not well controlled if I answer 'Yes' to any 1 of these questions

My Healthcare Team Contacts:									

My Questions and Things to Remember:

Asthma Resources:

Alberta's Information and Tools www.ucalgary.ca/icancontrolasthma

Alberta's Information and Tools in Other Languages www.ucalgary.ca/icancontrolasthma/languages

Asthma Society of Canada www.asthma.ca

The Lung Association of Canada www.lung.ca

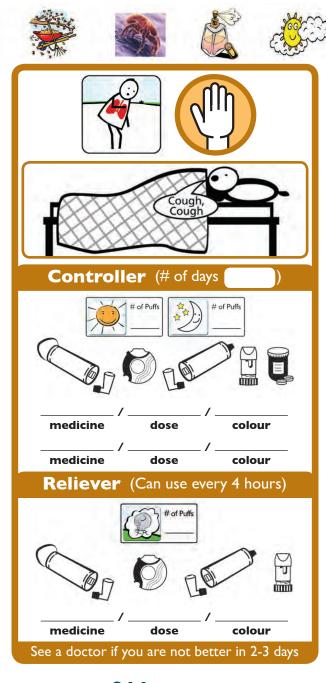
This Asthma Action Plan was developed by Alberta's health care professionals in collaboration with COPD & Asthma Network of Alberta, Alberta Asthma Centre, Alberta Strategy To Help Manage Asthma & COPD, Family Physician Airways Group of Canada, Alberta Health Services' Respiratory Health Strategic Clinical NetworkTM and The Lung Association of Alberta & NWTTM. 'Steps to Control' are adapted from Alberta's Community Pediatric Asthma Service.

Little Asthma Action Plan for: Goal: Controller (Every day) medicine colour medicine colour Reliever (When you need it)

dose

colour

medicine







Date:









See a Doctor soon if:

- your asthma symptoms are not getting better, even with more medicine
- you need your reliever medicine more often



Go to Emergency if:

- reliever medicine does not last at least 3 hours
- · skin at the base of the neck, between ribs or below the breast bone pulls in with breathing
- · children have no energy to play or move around
- babies refuse to eat or drink



Call 911 if:

- very serious symptoms breathing very fast, gasping for breath, having difficulty speaking, blue-grey lips or fingernails
- give reliever medicine every few minutes until help arrives
- comfort your child by trying to stay calm until help arrives







My Asthma Calendar

	Month	:		Name: _				
	Goal:_							
	Use t	this calendar to	record: (Your asthma	symptoms	✓ When you	take your medi	cine(s)
		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
- Ye								
Week	☆							
k 2								
Week 2	*							
K 3								
Week 3								
sk 4								
Week 4								

Remember to bring all your asthma medicine and devices to every asthma appointment, even if you are not taking them right now. For more information visit www.ucalgary.ca/icancontrolasthma



Ar	naphylaxis Emer <mark>ş</mark>	gency Plan: _			(name)
Th	is person has a potentially li	ife-threatening allergy (a	anaphylaxis) to:		
	no porocin nuo a poronitani, n	(Check the appropriate b			
		☐ Insect stings ☐ □	Other:		
		Epinephrine Auto-Ir Dosage:	njector: Expiry Date:	/	
		_	ng □EpiPen® 0.3 mg	☐ALLERJECT® 0.15 mg	g □ALLERJECT® 0.3 mg
		_	g ☐ Emerade™ 0.5 mg		
			jector(s):		
			lactic reaction: Person i		11.60
			n is at greater risk. If pe pinephrine auto-injector		
A	person having an anaphylac	tic reaction might have <i>l</i>	ANY of these signs and s	symptoms:	
_	Skin system: hives, swelling	(face, lips, tongue), itchi	ing, warmth, redness		_
•	Respiratory system (breathi voice, nasal congestion or ha	ng): coughing, wheezing	, shortness of breath, ch		
•	Gastrointestinal system (sto	mach): nausea, pain or o	cramps, vomiting, diarrh	ea	
•	Cardiovascular system (hea lightheadedness, shock	rt): paler than normal ski	in colour/blue colour, we	ak pulse, passing out, d	izziness or
•	Other: anxiety, sense of doon	n (the feeling that someth	ning bad is about to happ	en), headache, uterine c	cramps, metallic taste
	Early recogni	ition of symptoms and	l immediate treatmen	t could save a persor	n's life.
Ac	et quickly. The first signs of a	reaction can be mild, b	ut symptoms can get wo	orse very quickly.	
1.	Give epinephrine auto-injec anaphylactic reaction. (See a	tor (e.g. EpiPen®, ALLER attached instructions.)	RJECT®, Emerade™) at th	ne first sign of a known o	or suspected
2.	Call 9-1-1 or local emergence	cy medical services. Tell t	hem someone is having	a life-threatening allergio	c reaction.
	Give a second dose of epine	•		·	· ·
4.	Go to the nearest hospital in could worsen or come back, decided by the emergency de	even after proper treatme	ent. Stay in the hospital		
5.	Call emergency contact per	son (e.g. parent, guardia	ın).		
Er	nergency Contact Informatio	n			
	Name	Relationship	Home Phone	Work Phone	Cell Phone

Name	Relationship	Home Phone	Work Phone	Cell Phone
• , ,			inephrine to the above-named recommended by the patient's	•

Patient/Parent/Guardian Signature Physician Signature

On file

Date











Date

Blue to the sky. Orange to the thigh.

How to use EpiPen® and EpiPen Jr® (epinephrine) Auto-Injectors.

Remove the EpiPen® Auto-Injector from the carrier tube and follow these 2 simple steps:



- Grasp with orange tip pointing downward
- Remove blue safety cap by pulling straight up - do not bend or twist



- Place the orange tip against the middle of the outer thigh
- Swing and push the auto-injector firmly into the thigh until it "clicks"
- Hold in place for 3 full seconds



Built-in needle protection

 After injection, the orange cover automatically extends to ensure the needle is never exposed.



After using EpiPen®, you must seek immediate medical attention or go to the emergency room. For the next 48 hours, you must stay close to a healthcare facility or be able to call 911.

For more information visit the consumer site EpiPen.ca.

EpiPen® and EpiPen Jr® (epinephrine) Auto-Injectors are indicated for the emergency treatment of anaphylactic reactions in patients who are determined to be at increased risk for anaphylaxis, including individuals with a history of anaphylactic reactions. Selection of the appropriate dosage strength is determined according to patient body weight.

EpiPen® and EpiPen Jr® Auto-Injectors are designed as emergency supportive therapy only. They are not a replacement for subsequent medical or hospital care. After administration, patients should seek medical attention immediately or go to the emergency room. For the next 48 hours, patients must stay within close proximity to a healthcare facility or where they can call 911. To ensure this product is right for you, always read and follow the label. Please consult the Consumer Information leaflet in your product package for warnings and precautions, side effects, and complete dosing and administration instructions.









Listen up! Allerject Epinephrine Injection, USP is now available

ALLERJECT® is a portable epinephrine auto-injector with built-in voice assistance, designed to be easy to use in an allergic emergency



STEP 1 | Pull ALLERJECT from the outer case.

Do not go to step 2 until you're ready to use ALLERJECT. If you're not ready to use it, put it back in the outer case.



STEP 2 | Pull off the red safety guard.

The safety guard is meant to be tight. Pull firmly to remove.

To reduce the risk of accidentally injecting yourself, do not touch the black base of the auto-injector (where the needle comes out). If an accidental injection happens, seek immediate medical attention.



STEP 3 | Place the black end against the middle of the outer thigh (through clothing if necessary), then press firmly and hold in place for 5 seconds.

Only inject into the middle of the outer thigh (upper leg). Do not inject into any other location.

If you're administering ALLERJECT to a young child, hold the leg firmly in place while administering the injection.

ALLERJECT makes a distinct "click and hiss" sound when you press it against your leg. This is normal and means that ALLERJECT is working correctly.



STEP 4 | Seek immediate medical or hospital care.

Replace the outer case and take your used ALLERJECT with you to your doctor or pharmacist for proper disposal and replacement.



ALLERJECT is available in 2 doses





ALLERJECT 0.15 mgFor children 15 kg to 30 kg

ALLERJECT 0.3 mgFor anyone 30 kg or more

Talk to your doctor or pharmacist to discuss treatment options for anaphylaxis and whether ALLERJECT is right for you.

Always read and follow the patient information leaflet that comes with your ALLERJECT device for warnings and precautions, side effects, and complete dosing and administration information.

Learn more at Allerject.ca

Safety information

ALLERJECT is for the emergency treatment of serious allergic reactions (anaphylaxis) and is intended for people who are at risk and for people with a history of serious allergic reactions (anaphylaxis).

ALLERJECT should be used immediately to treat yourself or your child when experiencing a severe allergic reaction. This is emergency treatment. It does not replace seeing a doctor or going to the hospital. After injection, seek immediate medical attention. Even if you have sought medical help, you must stay within close proximity to a hospital or where you can easily call 911 for the next 48 hours.

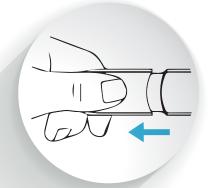




NOW AVAILABLE

How to use Emerade

To view our instructional video go to emerade.ca



STEP 1
Remove needle shield.



STEP 2

Press tip against outer thigh until a "click" can be heard.



Call 911 right away

STEP 4

Ask for an ambulance. Say "a sudden and severe allergic reaction".



Indications and clinical use: Emerade™ is indicated for the emergency treatment of serious allergic reactions (anaphylaxis) in people who are determined to be at increased risk for anaphylaxis, including people with a history of serious allergic reactions (anaphylaxis). Emerade™ should be used right away when you or your child is having a severe allergic reaction. This is emergency treatment. Using it does not replace seeing a doctor or going to the hospital. You must get medical help right away after you or your child has used it. To ensure Emerade™ is right for you, speak to your healthcare professional and always read and follow the information leaflet in your product package.

For complete dosing and instructions for use, please refer to the Patient Medication information in the Emerade™ Product monograph.











Community Pediatric Asthma Service

Awesome Asthma Information...One Click Away!



Our Asthma Website



Does My Child have Asthma?



<u>Understanding Asthma</u> (Presentation)



Asthma Info in 14 Languages



Food Allergy Canada



Asthma and Anaphylaxis



Breathing Well



<u>Understanding Childhood</u> <u>Asthma (Video)</u>



Alberta Children's Hospital



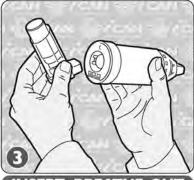
This material is designed for information purposes only. It should not be used in place of medical advice, instruction and/or treatment. If you have specific questions, please consult your doctor or appropriate healthcare professional.

METERED DOSE INHALER (MDI)

/"PUFFER" WITH SPACER & MOUTHPIECE (4+ YEARS)







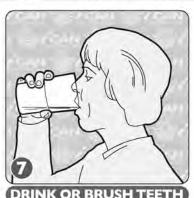


BREATHE OUT

PRESS DOWN







IMPORTANT INFORMATION

Using an inhaler without a spacer is NOT recommended. Note:

* Place mouthpiece between your teeth and close your lips (like sucking a straw).

* If you are not able to hold your breath, take 6 normal breaths.

Spacers: Replace spacer if valves are missing or broken.

Whistle: The whistle sound is a warning to SLOW your breathing.

Cleaning: Soak in warm soapy water. Let it dry.

Empty?: Shake it. If it feels light or you do not feel liquid moving, it is empty and needs to be

replaced. Some devices have counters. "0" means it is empty.

Pull the metal canister out of the plastic sleeve to check the expiry date on the canister. Expired?:

Reminder: Replace cap on plastic sleeve to store MDI.

Ask your pharmacy how to safely throw away medicines and asthma devices.

This material is designed for information purposes only. It should not be used in place of medical advice, instruction and/or treatment. If you have specific questions, please consult your doctor or appropriate healthcare professional.

Developed by the Community Pediatric Asthma Service, Calgary and area.

For more information on asthma medications and device demos, visit our website at:

www.ucalgary.ca/icancontrolasthma







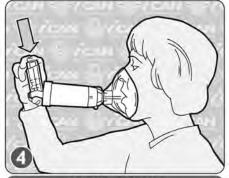
METERED DOSE INHALER (MDI)

INHALER / "PUFFER" WITH SPACER & MASK (UP TO 4 YEARS)









PRESS DOWN







IMPORTANT INFORMATION

Note: Using an inhaler without a spacer is NOT recommended

Spacer with mask is recommended to improve medication delivery to the lungs

Mask size: Masks come in infant, child and adult sizes.

Switch to spacer without mask at 4+ years of age unless physically or developmentally not able to. The mask should NOT cover the eyes. Make sure the mask covers the mouth and nose snugly.

Spacers: Replace spacer if valves are missing or broken.

Cleaning: Soak in warm soapy water. Let it dry.

Empty?: Shake it. If it feels light or you do not feel liquid moving, it is empty and needs to be

replaced. Some devices have counters. "0" means it is empty.

Expired?: Pull the metal canister out of the plastic sleeve to check the expiry date on the canister.

Reminder: Replace cap on plastic sleeve to store MDI.

Ask your pharmacy how to safely throw away medicines and asthma devices

This material is designed for information purposes only. It should not be used in place of medical advice, instruction and/or treatment. If you have specific questions, please consult your doctor or appropriate healthcare professional.

Developed by the Community Pediatric Asthma Service, Calgary and area.

For more information on asthma medications and device demos, visit our website at:

www.ucalgary.ca/icancontrolasthma







DISKUS (6+ YEARS)















IMPORTANT INFORMATION

Note: Place mouthpiece between your teeth and close your lips (like sucking a straw).

Empty?: The window has numbers that count down the dose - "0" means it is empty.

Expired?: Check the expiry date on the back of the device.

Reminders: Keep the Diskus dry.

Do not breathe into the device.

Close after use.

Cleaning: Wipe mouthpiece with a dry tissue or cloth.

Ask your pharmacy how to safely throw away medicines and asthma devices

This material is designed for information purposes only. It should not be used in place of medical advice, instruction and/or treatment. If you have specific questions, please consult your doctor or appropriate healthcare professional.

Developed by the Community Pediatric Asthma Service, Calgary and area.

For more information on asthma medications and device demos, visit our website at: www.ucalgary.ca/icancontrolasthma







ELLIPTA







SECOND BREATH HOLD

DEEP BREATH







N

IMPORTANT INFORMATION

Note: Place mouthpiece between your teeth and close your lips (like sucking a straw).

Empty?: The window has numbers that count down the dose – "0" means it is empty.

Expired?: Check the expiry date on the back of the device.

Reminders: Keep the device dry.

Do not breathe into the device.

Take once daily – same time every day. Do not block air vents with your fingers.

Cleaning: Wipe mouthpiece with a dry tissue or cloth.

Ask your pharmacy how to safely throw away medicines and asthma devices

This material is designed for information purposes only. It should not be used in place of medical advice, instruction and/or treatment. If you have specific questions, please consult your doctor or appropriate healthcare professional.

Illustrations developed by the Community Pediatric Asthma Service, www.ucalgary.ca/icancontrolasthma

For more information on inhaled medications and device demos, visit our website at:

www.ucalgary.ca/asthma

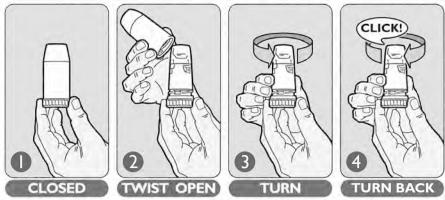


Supporting current Respiratory Guidelines





TURBUHALER (6+ YEARS)











IMPORTANT INFORMATION

Place mouthpiece between your teeth and close your lips (like sucking a straw). Note:

Empty?: The window on the device starts to show red when there are 20 doses left.

When the window is completely red, it is empty.

The window on some devices also shows a "0" when it is empty.

Expired?: Remove the cap to check the expiry date on the device.

Reminders: Keep the Turbuhaler dry.

Do not breathe into the device.

Replace the cap after use.

Cleaning: Wipe mouthpiece with a dry tissue or cloth.

Ask your pharmacy how to safely throw away medicines and asthma devices

This material is designed for information purposes only. It should not be used in place of medical advice, instruction and/or treatment. If you have specific questions, please consult your doctor or appropriate healthcare professional.

Developed by the Community Pediatric Asthma Service, Calgary and area.

For more information on asthma medications and device demos, visit our website at: www.ucalgary.ca/icancontrolasthma





TWISTHALER (6+ YEARS)





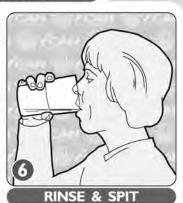


TWIST CAP OFF

BREATHE OUT







IMPORTANT INFORMATION

Note: Place mouthpiece between your teeth and close your lips (like sucking a straw).

Empty?: The window has numbers that count down the dose every time you open the cap.

When it is empty, it locks and you will not be able to twist off the cap.

Expired?: The expiry date is on the cap.

Reminders: Twist cap on until you hear a click.

Do not breathe into the device.

Keep the Twisthaler dry.

Cleaning: Wipe mouthpiece with a dry tissue or cloth.

Ask your pharmacy how to safely throw away medications and asthma devices

This material is designed for information purposes only. It should not be used in place of medical advice, instruction and/or treatment. If you have specific questions, please consult your doctor or appropriate healthcare professional.

Developed by the Community Pediatric Asthma Service, Calgary and area.

For more information on asthma medications and device demos, visit our website at: www.ucalgary.ca/icancontrolasthma



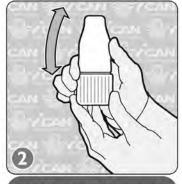


NASAL SPRAY

ALL AGES





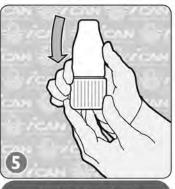


SHAKE & REMOVE CAP





REMINDER



REPLACE CAP

IMPORTANT INFORMATION

Expired?: Check the expiry date on the label.

Reminders: * Step 3:

- Place the tip of the nasal spray in your nostril.
- · Aim the tip toward your ear on the same side.
- Block the other nostril with your finger.
- Don't sniff or blow your nose for a few minutes after you spray so the mist has a chance to be absorbed. Hold a tissue under your nose.

Reminder: This spray works best if taken daily for at least several weeks. Use as prescribed.

Store at room temperature, away from direct light.

Cleaning: Refer to directions that came with your nasal spray.

Ask your pharmacy how to safely throw away medicines and asthma devices

This material is designed for information purposes only. It should not be used in place of medical advice, instruction and/or treatment. If you have specific questions, please consult your doctor or appropriate healthcare professional.

Developed by the Community Pediatric Asthma Service and the COPD & Asthma Network of Alberta.

For more information on asthma medications and device demos, visit: www.ucalgary.ca/icancontrolasthma









Does My Child Have Asthma?

"Does my child have asthma?" is a common question families ask. Asthma can make it hard to breathe and can cause coughing, wheezing, shortness of breath or tightness in your chest. These things we see and feel are called symptoms. Asthma symptoms can come and go, making it hard to know if a child has asthma.

It may take weeks, months or even years to confirm asthma, but there are ways to help us know if it is more likely or less likely that a child has asthma. The information you share with health professionals helps us understand if it is asthma. These are the 5 important things to think about:

- 1. SYMPTOMS
- 2. TRIGGERS
- 3. MEDICAL HISTORY
- 4. RESPONSE TO MEDICINE
- 5. BREATHING TESTS (when a child is about 6 years old)

The information below includes ideas to help you learn what to look for and what to write down to share with your doctor or asthma educator.

Visit our website at **www.ucalgary.ca/icancontrolasthma** for more information and other resources.

1. SYMPTOMS

Common asthma symptoms include:

- **Cough** Cough may come and go. It can be worse during the middle of the night. Some children cough so hard they struggle to breath or throw up
- **Wheeze** This is a whistling sound you hear when your child takes a breath in or out. Visit our website to hear wheezing (see "Videos" tab → "A Little Asthma Story")
- **Tight Chest** Some children say asthma feels like being squeezed or having something heavy sitting on your chest. This can be hard for children to describe
- **Shortness of Breath** Children often say they cannot get a full breath in. They may need to stop playing to catch their breath or they can't keep up with their friends when running or playing

2. TRIGGERS

Triggers can cause **asthma symptoms** or may make the symptoms you already have worse. Triggers are different for everyone. Some common asthma triggers include:

- Colds/Flu the most common trigger
- Allergies animals, pollen, mold, dust
- Emotions/Stress
- Environment strong smells, weather changes
- Exercise/Play

3. HISTORY

It is important to share your child's medical history with a healthcare professional:

- **Patient History** Children who have asthma symptoms or hospital visits for breathing trouble are more likely to have asthma. Children who have allergies or eczema are also *more likely* to have asthma
- Family History Children who come from families with asthma or allergic conditions (such as eczema, hay fever and even food allergies) are more likely to have asthma

4. RESPONSE TO MEDICINE

If your child has a pattern of symptoms that look like asthma, they may be given a trial of asthma medicine. Asthma medicine must be taken properly to work. Visit our website to watch videos on how to take your asthma medicines (Click "Devices" tab).

There are two different types of asthma medicine:

Relievers

- These puffers are blue and give temporary relief of asthma symptoms
- They should work quickly and relieve symptom for 3 or 4 hours
- Be sure to tell your child's doctor if this medicine is NOT helping

Controllers or Preventers

- These medicines are usually orange, red or brown. They control asthma and help prevent symptoms
- These medicines must be used every day for them to work and it often takes 2 weeks or more to have the best effect
- If your child was given a puffer at the hospital, it is important that you see your family doctor before stopping this medicine

5. BREATHING TESTS

- When children are about 6 years old, they can do a simple breathing test called spirometry. Spirometry is only one part of the overall picture we build to decide if a child has asthma
- Since asthma symptoms come and go, the breathing test only tells us about the lungs on the day the test is done. This means a
 normal breathing test does not rule out asthma

OTHER THINGS TO THINK ABOUT

- Asthma can be diagnosed at any age. Watch for asthma symptoms and see if taking asthma medicine relieves those symptoms
- Children who regularly have asthma symptoms are treated with puffers to lessen the impact of colds. Research shows that half of these children will not have asthma by the time they reach school age
- Finally, don't be confused by words like *reactive airway disease*, *wheezy bronchitis*, *happy wheezer* and *bronchospasm*. These are just words some people use to describe asthma symptoms



If your child does have asthma, the good news is that asthma can be well controlled and should not prevent children from doing anything they want to do!





Alberta Children's Hospital



This document has been designed for information purposes only. It should not be used in place of medical advice, instruction and/or treatment.

If you have specific questions, please consult your doctor or appropriate health care professional.



INHALED CORTICOSTEROIDS IN ASTHMA

by Drs. Brandie Walker and Richard Leigh, Division of Respiratory Medicine, University of Calgary

Inhaled corticosteroids, sometimes referred to as inhaled steroids, are the best medication to manage asthma. Inhaled corticosteroids are strong anti-inflammatory (anti-swelling) medications. People with asthma have swelling in the airways of their lungs, causing the airways to become more sensitive to asthma triggers such as allergens, dry air, smoke and viruses. Inhaled steroids reduce swelling, which improves symptoms, lung function and airway hyper-reactivity ('twitchiness'). A recent Canadian study (1) has shown that regular use of inhaled corticosteroids lowers the risk of death from asthma. The following are examples of inhaled corticosteroids commonly used:

- Inhaled Corticosteroids: Alvesco (ciclesonide), Arnuity (fluticasone furoate), Asmanex (mometasone), Flovent (fluticasone), Pulmicort (budesonide), Qvar (beclomethasone)
- Combination Inhaled Corticosteroid/long-acting beta agonists: Advair (fluticasone and salmeterol), Breo (fluticasone and vilanterol), (Symbicort (budesonide and formoterol), Zenhale (mometasone and formoterol)

How should I use my inhaled corticosteroid medication?

Good asthma management includes proper use of medications. The main purpose of inhaled corticosteroids is to reduce or prevent airway swelling and asthma flare-ups, and these medications are known as *preventers* for this reason. They should be used on a regular, daily basis as instructed by your physician, even if you are feeling well. *To get the maximum benefit, inhaled corticosteroids should be used as directed by your doctor, and with good inhaler technique*. The anti-swelling action happens gradually over days or weeks, when the medication is used regularly. Inhaled corticosteroids do not work for quick relief of asthma symptoms like cough, wheeze, chest tightness or shortness of breath, and instead a *reliever or bronchodilator medication* should be used.

WHAT ARE THE SIDE EFFECTS OF INHALED CORTICOSTEROIDS?

Inhaled corticosteroids have been the best treatment for asthma for more than 30 years. They are among the safest and most effective means to treat asthma. Although few side effects occur at standard doses (one to two puffs twice a day for most inhalers), some people may experience minor side effects such as hoarseness of the voice, and thrush (a yeast infection of the mouth and throat). Rinsing your mouth, or brushing your teeth after taking your medication, and using a spacer device with the aerosol puffer will decrease the chance of side effects. Children who have asthma can use inhaled corticosteroids safely over the long term. A recent review of many studies has shown that rarely children may grow up to half a centimeter less during their first year of treatment, but that this effect on height is smaller over time, and is minor compared to the benefits of well controlled asthma². In rare instances inhaled corticosteroids at high doses have caused low cortisol levels ("adrenal insufficiency"), which can cause symptoms of fatigue, nausea and vomiting, and requires medical attention if suspected³.

WHAT ABOUT ATHLETES WHO ARE BANNED FOR USING STEROIDS?

Inhaled corticosteroids are not related to anabolic steroids that are used by some athletes to enhance their performance. The regular use of inhaled corticosteroids does not increase muscle mass or cause any of the other side effects associated with anabolic steroids. None of the inhaled corticosteroids commonly used to treat asthma are banned by the International Olympic Committee, and they can be safely used in all forms of competitive sport.

WOULDN'T IT BE EASIER TO TAKE CORTICOSTEROID TABLETS?

Some patients with more severe asthma may need treatment with oral corticosteroid tablets (Prednisone, Dexamethasone), but most people can manage their asthma very well with inhaled corticosteroids. Inhaled corticosteroids have a great advantage over prednisone tablets because the medication is inhaled directly into the lungs, with less absorption by the rest of the body. This helps to lower the chance of any potential side effects, making inhaled corticosteroids among the safest and most effective way to manage asthma.

CONCLUSION

Inhaled corticosteroids used with proper inhaler technique are very effective for treating asthma. They are safe and should be considered the first choice in asthma management for most cases of asthma.

REFERENCES

- 1. Suissa S, Ernst P. Benayoun S. Baltzan M. Cai B. Low-dose inhaled corticosteroids and the prevention of death from asthma. N Engl J Med 2000:343:332-6.
- 2. Pruteanu Al, Chauhan BF, Zhang L, Prietsch SO, and Ducharme FM. Inhaled corticosteroids in children with persistent asthma: dose-response effects of growth. Cochrane Database Syst Rev. 2014 Jul 17;7.
- 3. Lapi F, Kezouh A, Suissa S, and Ernst P. The use of inhaled corticosteroids and the risk of adrenal insufficiency. ERJ July 1, 2013 vol 42 no 1.

The Community Pediatric Asthma Service has designed this material for information purposes only. It should not be used in place of medical advice, instruction and/or treatment. If you have specific questions, please consult your doctor or appropriate healthcare professional.



🔁 Nijmegen Questionnaire

Name:		DOB:			
Date:	1:	2:	3:		
Score /64:	1:	2:	3:		

Frequency	ı	Neve	r		Rare	•	So	metir	nes		Ofter	1	Very Often		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Chest pain (sore chest wall)															
Feeling tense (physical tension)															
Blurred vision (fuzzy eyes)															
Dizzy spells (light-headedness)															
Feeling confused (poor concentration/spaced out)															
Faster deeper breathing															
Short of breath (breathlessness)															
Tight feelings in chest															
Bloated feeling in stomach (upset gut)															
Tingling fingers															
Unable to breathe deeply (sighing a lot)															
Stiff fingers or arms															
Tight feelings around mouth															
Cold hands or feet															
Heart racing (palpitations)															
Feelings of anxiety (busy brain)															

Version 1.4 MAY 2016 © BradCliff®

Triggering Factors



PEDIATRIC RESPIRATORY MEDICATION GUIDE

Inhaled Glucocorticoids:

- Approximately 4% of patients get thrush, less for children
- All inhaled steroids may affect the voice

Name/ Delivery	Dosage Forms	Age Approval	Doses/ Device	Product Monograph	Comments
Aermony RespiClick (Fluticasone propionate)	55 mcg. 113 mcg 232 mcg	Approved 12 years and older	60 doses BID	Starting dose based on asthma severity BID Dosing	 Contains lactose monohydrate (milk proteins) Released in 2018
Alvesco (Ciclesonide) MDI/Spray/Puffer	100 mcg 200 mcg	Approved 6 years & older	120 doses OD to BID	 6-11 years starting dose: 1-2 puffs daily (100-200 mcg) 12 years and older starting dose: 400 mcg daily Dose range 100 – 800 mcg 	Benefits include: ✓ Pro drug ✓ Targets the lungs Less bioavailability /systemic side effects ✓ Can be given once a day
Arnuity (Fluticasone Furoate) Ellipta Device Dry Powder inhaler	100 mcg 200 mcg	Approved 12 years and older	30 Doses OD	12 years and older starting dose: • 100 mcg od Increase to 200 mcg od if not controlled Max dose 200 mcg od	 Released 2016 Carrying agent contains lactose Medication sealed in foil tray, stable for 6 weeks after opened
Asmanex Mometasone Furoate Twisthaler Dry powder	100 mcg 200 mcg 400 mcg	Approved 4 years and older	30 doses 100 & 400 mcg 60 doses 200 & 400 mcg OD/BID	 4-11 years (Usual starting dose) • 1 puff od in the evening (100 mcg) 12 years and older 200 mcg • 1 puff od/bid in the evening Max dose 800 mcg/day 	 Needs forceful inspiration for adequate delivery of medication into lungs Counter on device Lid locks in place when device is empty
Flovent (Fluticansone Propionate) <u>Diskus</u>	100 mcg 250 mcg 500 mcg	Approved for 4 years and older	60 Doses BID	4-16 years starting dose: ■ 100 mcg, 1 puff bid 17 years and older starting dose: ■ 100–500 mcg bid Dose depends on severity and response to previous treatment	 Contains lactose Generally, patients need to be 6 years and older to generate enough inspiratory flow to effectively use the Diskus Risk of side effects increases with doses > 500 mcg/day
Flovent (Fluticasone Propionate) MDI /Spray/Puffer	50 mcg 125 mcg 250 mcg	Approved 12 months and older	120 doses BID	1-4 years: • 100 mcg bid (2 puffs 50 mcg bid) > 4 years: • Usual starting dose is 100 mcg bid	 125 mcg mdi 1 puff bid is often substituted for 50 mcg 2 puffs bid due to ease and pharmacy dispensing cost Risk of side effects increases with doses > 500 mcg/day
Pulmicort (Budesonide) Turbuhaler Dry powder	100 mcg 200 mcg 400 mcg	Approved 6 years and older	200 doses BID	6 years and older • Low ≤400 mcg/Med 401-800 mcg/ High > 800 mcg	 Needs forceful inspiration for adequate delivery of medication into lungs It will not double load a dose Small amount of powder – patient may not feel they got any medication
Qvar (Beclomethasone) MDI/Spray/Puffer	50 mcg 100 mcg	Approved 5 years and older	200 doses BID	 4-11 years starting dose: 1 puff bid Low ≤ 200 mcg/Med 200-400 mcg/ High > 400 mcg 12 years and older: Max dose 800 mcg/day 	In an alcohol base - some patients sensitive to the taste

Short Acting Beta Ago					
Name/ Delivery	Dosage Forms	Age Approval	Doses/ Device	Product Monograph	Comments
Airomir (Salbutamol Sulfate) Generic Form MDI/Spray/Puffer	100 mcg	Approved for 6 years and older	200 doses		 Propellant is alcohol based and some children dislike the taste and smell Puffer contents can freeze, making it unusable
Bricanyl (Terbutaline Sulfate) Turbuhaler	0.5 mg/dose (500 mcg/puff)	Approved 6 years and older	120 doses	Dose 1-2 puffs q4h prn Max 6 doses in 24 hours	 Contents will not freeze. Good choice for patients that participate or work out in the cold Needs good inspiratory flow
Ventolin Diskus (Salbutamol Sulfate) <u>Diskus</u>	200 mcg	Approved for 4 years and older	60 doses	1-2 inhalation every 4-6 hours PRN Max 4 puffs (800 mcg) daily	 Carrying agent contains lactose. Contents will not freeze. Good choice for patients that participate or work out in the cold Particle size large
Ventolin HFA (Salbutamol Sulfate) MDI/spray/puffer	100 mcg	Approved for 4 years and older	200 doses	Starting dose • 1-2 puffs q4hrs PRN Take 15 minutes prior to exercise as needed	 Typical recommendations: 2-5 puffs q4h prn If not lasting 3-4 hours or symptoms worsening to seek medical attention Puffer contents can freeze, making it unusable
			Anticholi	nergic Bronchodilators	
Atrovent (Ipratropium Bromide) MDI/Spray/Puffer Nebulized	20 mcg 250 mcg/ml	Approved for 18 years and older	200 doses	Used primarily in the emergency department (As per ACAP) • 4 puffs q 20 minutes first hour in emergency	 Used as per the Alberta Childhood Asthma Pathway (ACAP) for Moderate/Severe asthma, http://www.childhoodpathways.ca/ Anticholinergic Has a bad taste/smell Slower onset of bronchodilation than Salbutamol Not first line therapy for bronchodilation Do not send home from Emergency/urgent care department
Leukotriene Receptor	Antagonist				
Singulair (Montelukast) Generic Version available Montelukast Pill/sprinkle	4 mg 5 mg 10 mg	2-5 years of ag 4 mg 6-14 years of a 5 mg 15 years and o 10 mg	ge Ider	Add on therapy to existing asthma treatment May be used as monotherapy in mild asthma, or for allergic rhinitis	 Consider if ICS therapy is not an option i.e., parent concerns In some children, generic not as effective as brand name Singulair Rare side effects include headaches, migraines, behavioral changes, depression Not recommended for patients with suicidal ideation

Nasal Steroid Spray

• Excessive nasal mucous secretion or nasal mucosal edema may cause failure of treatment due to lack of interaction with tissue

Name/Delivery	Dosage Forms	Approval	Dose/Device	Dose/Comments
Avamys (Fluticasone furoate) Nasal spray	27.5 mcg Per actuation	Approved for 2 years and older	120 doses	 2-11 years: 1 spray each nostril od 12 years and older: Start at 2 sprays each nostril daily Decrease to 1 spray each nostril daily, if possible Do not sniff or blow nose immediately after a dose Most effective when saline rinse is used before dose
Dymista (Azelastine/Fluticasone) Nasal Spray	137 mcg 50 mcg	Approved 6 years and older	120 doses	 1 spray each nostril, twice a day Combination antihistamine/inhaled steroids
Flonase (Fluticasone Propinate) Nasal spray	50 mcg Per actuation	Approved for 18 years and older	120 doses	 Week 1: 2 sprays each nostril once a day Week 2: 1 spray each nostril once a day Available on pharmacy shelves without prescription
Nasacort (Triamcinolone Acetonide) Nasal spray	55 mcg Per actuation	Approved for 12 years and older Nasacort AQ – approved for 4-12 years of age	120 doses	 Treatment for Allergy symptoms that occur throughout the day 4-11 years: 1 spray each nostril daily 12 years and older Week 1: 2 sprays each nostril daily Week 2: 1 spray each nostril daily
Nasonex (Mometasone furoate monohydrate) Nasal spray	50 mcg Per actuation	Approved for 3 years and older	120 doses	3-11 years: • 1 spray each nostril daily 12 years and older: • Start at 2 sprays each nostril daily • Decrease to 1 spray each nostril daily, if possible
Omnaris (Ciclesonide) Nasal spray	50 mcg Per actuation	Approved for 12 years and older	120 doses	 2 sprays each nostril od Max dose 200 mcg /day Offers less chance of nosebleeds than other nasal sprays
Rhinocort (Budesonide) <u>Nasal spray</u>	64 mcg Per actuation	Approved for 6 years and older	120 doses	 6-11 years: 1 spray each nostril daily 12 years and older: Start at 2 sprays each nostril daily Decrease to 1 spray each nostril daily, if possible

Updated: June 23, 2023

Combination Medications

- Inhaled corticosteroid (ICS) with Long Acting Beta Agonist (LABA)
 Generally used when ICS alone (Monotherapy) has failed or high doses required to maintain asthma control
- Recommended for 12 years and older

Name/Delivery	Dosage Forms	Age Approval	Doses/Device	Product Monograph	Comments
Advair MDI (Fluticasone Propionate/Salmeterol) MDI/Spray/Puffer	125/25 mcg 250/25 mcg	Approved for 12 years and older	120 doses BID	Starting dose 1-2 puffs bid	Has a counter on the puffer
Advair Diskus (Fluticasone Propionate/Salmeterol) Diskus/Dry Powder	100/50 mcg 250/50 mcg 500/50 mcg	100/50 mcg approved for children 4-11 years Other doses not approved for children	60 doses BID	Dose 1 puff bid	 Carrying agent contains lactose Slowly being replaced with Breo
Atectura Mometasone, Indacterol (furate) + (acetate) Breezhaler device	80/150 mcg 160/150 mcg 320/150 mcg	Approved for 12 years and older	3 blister cards of 10	1 capsule per day Q24 hours	 For inhalation only DO NOT swallow capsule Pierce capsule ONCE only If powder remains in capsule, repeat inhalation
Breo (Fluticasone Furoate / Vilanterol (Tridentate) Ellipta device	100/25 mcg 200/25 mcg	Approved for 18 years and older	14 and 30 dose OD	1 inhalation od	Used off label by respirologists for hard to control asthma
Enerzair Triple Combination for Asthma Mometasone+Glycopy- ronium+Indacataerol (furoate)+(bromide)+(acetate)	160/50/150 mcg	Approved for 18 years and older	3 blister cards of 10	1 capsule per day Q24 hours	 For inhalation only DO NOT swallow capsule Pierce capsule ONCE only If powder remains in capsule, repeat inhalation
Symbicort (Budesonide/Formoterol <u>Turbuhaler - Dry Powder</u>	100/6 mcg 200/6 mcg	Approved for 12 years and older	120 doses BID	Starting dose: 1-2 puffs bid	 Carrying agent contains lactose Max 8/day (short term) Can be used as a Controller and Reliever
Wixela Inhub (Fluticasone Propionate/ Salmeterol)	100/50 mcg 250/50 mcg 500/50 mcg	100/50 mcg approved for children 4 to 11 years 12 years and older: 1 BID	60	1 BID	 Released 2020 This is the generic Flovent in a new device called the Inhub
Zenhale MDI (Mometasone Furoate/ Formoterol) Spray/Puffer	50/5 mcg 100/5 mcg 200/5 mcg	Approved 12 years and older	120 doses BID	Max dose 800 mcg Mometasone Furoate/ 20 mcg Formoterol Equates to 2 puffs bid of 200/5 mcg daily and titrate to lowest effective dose to achieve asthma control	 Possible higher risk of Adrenal insufficiency Has a counter on the puffer

Updated: June 23, 2023



WHY SHOULD I GIVE MY CHILD ASTHMA MEDICINE?

by Dr. Mary Noseworthy & the Community Pediatric Asthma Service

Parents worry about giving their children medicine

This information explains what asthma medicine is for and what can happen if you do not take it

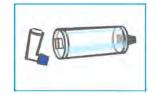
Asthma can make it hard to breathe. Sometimes it might <u>seem</u> like everything is normal, but this can change quickly. The doctor may try asthma medicine when a child has one or more of these breathing problems:

- coughing that doesn't go away after a cold, especially during the night
- coughing or getting tired easily when running
- wheezing a whistling sound when they breathe
- finding it hard to take a breath

If your child's asthma is well controlled and they have no breathing problems, do not stop giving them their asthma medicine – this medicine is helping to keep them well. Talk to your doctor before you stop giving asthma medicine.

WHAT DOES ASTHMA MEDICINE DO?

Reliever Medicine (usually a blue puffer): Reliever medicine works quickly to make breathing easier, but it only lasts for a few hours <u>and</u> does not get rid of swelling. Reliever medicine can cause shaky hands or a faster heart rate, but these things are not harmful and only last for a short time.



Controller Medicine (usually a brown, red or orange puffer): Controller medicine (corticosteroids) works on calming the lungs and getting rid of swelling so breathing problems get better. Controllers are safe to take every day because they go right into the lungs and are used in small amounts. Take a drink, rinse your mouth or brush your teeth after you take it and you should not have any trouble.

In an emergency, corticosteroids are given at a much higher dose than they usually are – often as a liquid or pill, to quickly improve breathing problems. Because this medicine travels through the whole body and not just the lungs, it may affect a child's mood. Your doctor will talk to you about any concerns they might have about your use of this medicine.

Using corticosteroid puffers every day is the best way we know to prevent breathing problems and emergency visits or hospital stays.

WHAT IF I DON'T GIVE THE ASTHMA MEDICINE?

If children don't get their asthma medicine, you could notice:

- Poor sleep because of coughing
- Missing school because of breathing problems
- ♣ Not being able to keep up with their friends at play or sports
- Not growing as much as you expect because so much energy is spent trying to breathe
- More emergency visits or hospital stays because of breathing problems



If you have any worries about asthma medicine, talk to your doctor, pharmacist, nurse or asthma educator. Following your <u>Asthma Action Plan</u> and using asthma medicine <u>every day</u> is the best way we know to make sure children with asthma have no breathing problems.

This document has been designed for information purposes only. It should not be used in place of medical advice, instruction and/or treatment. If you have specific questions, please consult your doctor or appropriate health care professional.

Alberta Children's Hospital



WHEN AND WHERE TO GET HELP FOR ASTHMA

- Uncontrolled asthma can lead to emergency visits and admission to hospital. See your doctor, asthma educator or pharmacist for more information about how to control your asthma
- Know the emergency numbers in your area. In Alberta, Health Link is a 24-hour telephone advice line staffed by experienced nurses.
 If you have any urgent questions, dial 811 in Alberta

	SEE YOUR DOCTOR	GO TO AN EMERGENCY	CALL 911
What You See/Feel	If you are using or giving reliever medicine (blue) more than 2 times/week	 If the skin at the base of your child's neck, between the ribs, or below the breastbone pulls in when your child breathes If your child has no energy to play or even move around Your baby will not eat or drink 	 If you have or see symptoms that are very serious - breathing very fast, gasping for breath, trouble speaking, blue-grey lips or fingernails, CALL 911
What To Do	 If asthma symptoms are getting worse, take or give preventer/controller medicine at the highest dose recommended by the doctor If you do not see improvement in 12 – 24 hours, make an appointment to see a doctor as soon as possible 	 Give or take reliever medicine (blue). This medicine should make breathing easier within 5 - 10 minutes. Relief should last for 3 - 4 hours If the dose needs to be repeated before 3 hours, please go to Emergency You know best. If you are worried, go to Emergency 	Stay calm CALL 911 and give the reliever medicine (blue) every few minutes until help arrives
What Usually Happens	 Everyone with asthma should have an Asthma Action Plan. Your plan will help you know how to adjust medicine to control asthma Make an appointment with your doctor or asthma educator to develop an Asthma Action Plan Print a blank copy of an Asthma Action Plan to take to your doctor or health care provider 	 It is normal to stay several hours for treatment/observation. You or your child may be admitted to hospital until asthma symptoms are in better control Along with regular medicine, you may also be prescribed a short course of oral steroids to help get asthma back in control more quickly Ask for an Emergency Asthma Action Plan Ask to be referred for asthma education 	 Paramedics will treat you You may go to Emergency for more treatment It is normal to stay several hours for treatment/observation. You may be admitted to hospital until asthma is in better control

OTHER THINGS YOU CAN DO:

- 1. If possible, remove yourself or your child from any known triggers
- 2. Sit up. Loosen tight clothing

3. Make an appointment with your family doctor/pediatrician as soon as possible after an asthma emergency visit



This material is for information purposes only. It should not be used in place of medical advice, instruction, and/or treatment. If you have questions, talk with your doctor or appropriate healthcare professional.