Taddle Creek
Family Health Team

MEDICAL DIRECTIVE

Title:	Asthma Action Plan	**Number:**	TCFHT-MD12
Activation Date:	10-06-2014	**Review Date:**	06-06-2018
Next Review Date:	06-06-2019		

Sponsoring/Contact Person(s) *(name, position, contact particulars):*

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Order and/or Delegated Procedure:

Appendix Attached: __ **No** _X_ **Yes**
Title: Appendix D – Asthma Action Plan

Using this directive, the implementer is authorized to:

- Provide patient/caregiver with a written Asthma Action Plan (AAP; see Appendix C), which will be reviewed at each visit (at least yearly), to reinforce self-management and skills required to use an action plan.
- Educate the patient/caregiver to monitor for symptoms that indicate controlled, uncontrolled and dangerously uncontrolled asthma.
- Direct patient/caregiver to make changes to treatment plan for the purpose of gaining control of uncontrolled asthma (changes to frequency or dose of current medications only, not new prescriptions).
- Renew prescriptions for green zone medications.
- Educate the patient/caregiver about situations when medical assistance is required.
- Provide letters for prescription spacers under standing verbal order from PCP, for insurance purposes (See appendix H).

Recipient Patients:

Appendix Attached: __ **No** _X_ **Yes**
Title: Appendix A – Authorizer Approval Form

Recipients must:

- Be an active patient of a TCFHT primary care provider who has approved this directive by signing the Authorizer Approval Form
- Have a diagnosis of asthma
- Be over the age of 6 years
- Meet the conditions identified in this directive

Authorized Implementers:

Appendix Attached: __ No _X_ Yes
Title: Appendix B – Implementer Approval Form; Appendix E – Adjustment of Inhaled Controller Therapy in Yellow Zone

Implementers must be TCFHT employed Regulated Health Care Providers or Physician Assistants (under the supervision of a physician).

Implementers must complete the following preparation and sign the Implementer Approval Form:

- Attend AsthmaTrec, created by the Lung Association of Saskatchewan: http://www.resptrec.org (exception: Pharmacists are considered to have received equivalent training in medications during their education)
    - If implementer has not completed AsthmaTrec, but is able to utilize this directive, they should complete **one** of the following:
        1. Primary Care Asthma Program (PCAP) provider educator program on the proper use of an asthma action plan, offered through McMaster University online, accessible from http://machealth.ca/programs/asthma-action-plan/default.aspx
        2. One-on-one training from a Certified Respiratory Educator (CRE), or;
        3. The asthma component of Comprehensive Respiratory Educator Program through Pear Health e-learning, accessible from https://www.healthelearning.ca/lms/my/catalogue/index.php?id=27&subid=75&productid=396&producttype=training&action=view
- Review the PCAP document: "Asthma Diagnosis and Management Algorithm for Primary Care", accessible from http://olapep.ca/resources
- Review the Ontario Lung Association Document: "Adjustment of Inhaled Controller Therapy in the Yellow Zone", available on PSS Handouts and Appendix E
- Review the following articles from UptoDate, accessible from http://www.UptoDate.com:
    1. Overview of asthma management
    2. Treatment of acute exacerbations of asthma in adults
- Review the Canadian Respiratory Guidelines accessible from https://cts-sct.ca/wp-content/uploads/2018/01/ASTHMA-GUIDELINE-APRIL-2012.pdf

Indications:

Appendix Attached: _X_ No __ Yes
Title:

The authorized implementers may apply this directive pursuant to a Physician or Nurse Practitioner's order.

Considerations:

- Adjustment of inhaled controlled therapy for children 6-11: consult with the Primary Care Provider is recommended, however there are guidelines in this directive the implementer can utilize.

Contraindications:

- Difficulty understanding, reading, or following written directions, either because of a medical

condition, language barrier, age, or at the implementer's discretion.

Consent:

Appendix Attached: _X_ No __ Yes
Title:

Consent is implied upon referral for asthma care visit, asthma education, spirometry or completion of an Asthma Action Plan. However, the authorized implementer will explain the purpose and procedures involved in the Asthma Action Plan to further obtain verbal consent from the patient or POA.

Guidelines for Implementing the Order/Procedure:

Appendix Attached: __ No _X_ Yes
Title: Appendix C – Asthma Action Plan (adult and pediatric)
Appendix E – Adjustment of Inhaled Controller Therapy in Yellow Zone
Appendix E – Completion of a Written, Individualized Action Plan

- Refer to Appendices
- Implementer must educate the patient or care-provider on what constitutes an acute exacerbation of asthma and how and an Asthma Action Plan (AAP) can assist with asthma management. Patient education also includes helping the patient to recognize loss of control and what to do if the symptoms become worse.
- Different action plans are available for both pediatric and adult patients (see Appendix C)
- Yellow zone medication changes will be based upon the Ontario Lung Association document "Adjustment of Inhaled Controller Therapy in Yellow Zone" for individuals >12 years of age.

Documentation and Communication:

Appendix Attached: __ No _X_ Yes
Title: Appendix C – Asthma Action Plan

- At each asthma care visit, the implementer will review the AAP with the patient and document the visit using Respiratory Program Custom Form: Asthma Control Test.
- Any and all changes to the AAP must be documented in the chart, through use of appropriate Respiratory Clinic Custom Form.
- Any and all medication changes shall be noted in the patient profile
- Implementers can use education materials found in Respiratory Program folder

Review and Quality Monitoring Guidelines:

Appendix Attached: _X_ No __ Yes
Title:

- Routine renewal will occur annually on the anniversary of the activation date. Renewal will involve a collaboration between the authorizing primary care providers and the authorized implementers.
- At any such time that issues related to the use of this directive are identified, TCFHT must act upon the concerns and immediately undertake a review of the directive by the authorizing primary care providers and the authorized implementers.
- This medical directive can be placed on hold if routine review processes are not completed, or if indicated for an ad hoc review. During the hold, implementers cannot perform the procedures under authority of the directive and must obtain direct, patient-specific orders for the procedure until it is renewed.
- If new information becomes available between routine renewals, such as the publishing of new clinical practice guidelines, and particularly if this new information has implications for unexpected outcomes, the directive will be reviewed by the authorizing physician/nurse

pracititioner and a mimimum of one implementer.

References:

Boivin, M. (2014). Pear Health E-Learning Module: Pharmacotherapy for Asthma. Module 3.5

Canadian Respiratory Guidelines: Recommendations for the Diagnosis and Management of Asthma – Preschoolers, children and adults 2012 update. Available online through the CTS: http://www.respiratoryguidelines.ca/2012-cts-guideline-update-asthma-peds

Children's Health Network Paediatric Asthma Action Plan (2010). Accessed April 25, 2016 from http://www.childrenshealthnetwork.org/file_redirect.jsp?siteObjectID=81586&fname=Asthma_Action_Plan.pdf

Global Strategy for Asthma Management and Prevention, Global Initiative for Asthma (GINA) 2012. Accessed April 25, 2016 from http://www.ginasthma.org/

Lougheed, M. D., Lemiere, C., Ducharme, F. M., Licskai, C., Dell, S. D. Rowe, B. H., et al. (2012). Canadian Thoracic Society 2012 guideline update: Diagnosis and management of asthma in preschoolers, children and adults: Executive summary. Canadian Respiratory Journal, 19 (*6*), e81-e88.

Thomas, A (2016). Iggy and the Inhalers. Accessed April 25, 2016 from https://iggyandtheinhalers.com/pages/free-downloads

The Lung Association Asthma Action Plan (2012, Dec). Accessed April 25, 2016 from http://lung.healthdiary.ca/Guest/Product.aspx?IDS=iqhzDlyIjtUBtRdVtMjiBw%3d%3d

Reddel HK and OJ Barnes. Pharmacological strategies for self-management of asthma exacerbations. 2006, Eur Respir J; 28(1):182-199.

Appendix A:

Authorizer Approval Form

Name	Signature	Date

Appendix B:

Implementer Approval Form

To be signed when the implementer has completed the required preparation, and feel they have the knowledge, skill, and judgement to competently carry out the actions outlined in this directive.

Name	Signature	Date
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
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_____	_____	_____

Appendix C:

Adult Asthma Action Plan

What is your asthma control zone?

For each item below think about the statement that most closely reflects what you are currently experiencing.

Step 1	What to Look for	CONTROLLED ASTHMA	UNCONTROLLED ASTHMA	DANGEROUSLY UNCONTROLLED ASTHMA
	Physical activity	Normal ☐	Some interruption with activities ☐	Difficulty talking ☐
	***Reliever use**	Less than 4 times / week ☐	4 or more times / week ☐	Reliever inhaler doesn't work as usual ☐ *OR* Relief lasts less than 2 hours
	Daytime symptoms: may include: cough, difficulty breathing, wheeze	Less than 4 days / week ☐	4 or more days / week ☐	All the time ☐
	Nighttime symptoms: may include: cough, difficulty breathing, wheeze	Less than 1 night / week ☐	1 or more nights / week ☐	Every night ☐
	Peak Flow Rates (optional)	Greater than _____	Between _____ and _____	Less than _____
Step 2	**What is my level of asthma control?**	If **all** checks are in the green column, your asthma is under control (Green Zone).	If you have any checks in the yellow column and zero checks in the red column, your asthma is uncontrolled and in the Yellow Zone.	If you have any checks in the red column, your asthma is *dangerously uncontrolled* (Red Alert Zone).
Step 3	**Steps to Take**	**Follow your current plan.**	**Make an appointment to see your doctor** ☐ Follow the steps below: • Continue this treatment for _____ days. • If asthma is not improving within _____ days see your doctor.	**Seek Immediate Medical Assistance** • Go to your nearest emergency room • Call 911 • Take your reliever inhaler as necessary. May take every 10 - 20 minutes on way to the hospital or as recommended by your doctor.

*Reliever medications quickly relieve symptoms. Examples are: salbutamol (Airomir®, Ventolin®), terbutaline (Bricanyl®)

THE LUNG ASSOCIATION™ Lung Health Information Line: 1-888-344-LUNG (5864) Ontario

Last Updated 06-06-2018 by Emma MacGregor, RN, CRE

Pediatric Asthma Action Plan

My Asthma Action Plan

Name: _____ Date: _____

Parent/Guardian: _____

Healthcare Provider: _____

Phone for healthcare provider: _____

Phone for taxi or friend: _____ Emergency #**911**

Other instructions:

I feel GOOD (Green)

- Breathing is easy.
- No cough or wheeze.
- Can work and play

☐ Use asthma long-term control medicine.

Medicine:	How taken:	How much:	When:
_____	_____	_____	_____ times a day
_____	_____	_____	_____ times a day
_____	_____	_____	_____ times a day

Peak Flow Numbers: ____ to ____

20 minutes before exercise or sports, take _____ puffs of _____

I do NOT feel good (Yellow)

- Cough
- Wheeze
- Hard to breathe
- Wake up at night.
- Can do some, but not all activities.

TAKE_____ puffs of quick-relief medicine. If not back in the Green Zone within 20 to 30 minutes, take _____more puffs.

Medicine:	How taken:	How much:	When:
_____	_____	_____	every _____ hours

KEEP USING long-term control medicine:

Medicine:	How taken:	How much:	When:
_____	_____	_____	_____ times a day
_____	_____	_____	_____ times a day

Peak Flow Numbers: ____ to ____

Call healthcare provider if quick-relief medicine does not work OR if these symptoms happen more than twice a week.

I feel AWFUL (RED)

- Medicine does not help.
- Breathing is hard and fast.
- Can't walk well.
- Can't talk.
- Feel very scared

Get help now! Take these quick-relief medicines until you get emergency care.

Medicine:	How taken:	How much:	When:
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Peak Flow Number: Under ____

Call 911 if can't walk or talk because it is too hard to breathe OR if lethargic OR if skin is sucked in around neck and ribs during breaths OR if lips or fingernails are gray or blue.

January 2010

Last Updated 06-06-2018 by Emma MacGregor, RN, CRE

Appendix D

Reference Inhaled Corticosteroid Dosing

Table 1: Inhaled Corticosteroid Dosing Categories in Children and Adults

Inhaled Corticosteroid Dosing Categories in Children and Adults[2,3]							
		Daily ICS dose (µg)					
		Children (6 to 11 years of age)			Adult (12 years of age and over)		
Corticosteroid	**Trade Name**	**Low**	**Medium**	**High**	**Low**	**Medium**	**High**
Beclomethasone	QVAR®	≤200	201-400	>400	≤250	251-500	>500
Budesonide	Pulmicort®	≤400	401-800	>800	≤400	401-800	>800
Ciclesonide	Alvesco®	≤200	201-400	>400	≤200	201-400	>400
Fluticasone	Flovent®	≤200	201-500	>500	≤250	251-500	>500
Mometasone	Asmanex®	Not indicated < 12 years of age			200-399	400-799	≥800

Taken from Pear Health E-Learning Module: Pharmacotherapy for Asthma

Appendix E

Recommended Controller Step-Up Therapy in Yellow Zone (ages 6-11 yrs)[5]

Maintenance Therapy*	**Recommended controller step-up therapy for the Action Plan "Yellow Zone"**	
	1st choice	**2nd choice*** **
No maintenance	No good evidence	Consider starting regular low-dose controller therapy
Low-dose ICS	No good evidence	• Medium-dose ICS OR • Prednisone/prednisolone 1mg/kg x 3-5 days • Suggest referral to Pediatric Respirologist
ICS/LABA**	No good evidence	• Prednisone/prednisolone 1mg/kg x3-5 days • Suggest referral to Pediatric Respirologist
* Refer to Appendix D for low-, medium-, high-ICS dosing ** ICS/LABA combination does not apply to pre-schoolers <6 years of age; there is no clear evidence of the benefit of ICS and LABA combination therapy in the pediatric population[5] *** If patient uncontrolled on regular-low-dose ICS, authorized implementer will consult with PCP and/or consider referral to Pediatric Respirology		

As per CTS 2012 Guidelines Update[5]:

- In children with asthma not achieving control despite adherence to a low dose of ICS, we recommend increasing to a medium dose of ICS. (GRADE 1A)
- In children not achieving asthma control on a medium dose of ICS, we suggest the addition of a LABA or LTRA. (GRADE 2B)
- Children who fail to achieve control on a medium dose of ICS should be referred to a specialist. (Consensus)
- For children 6 to 11 years of age, the evidence is not clear with respect to the next best option when low-dose ICS does not result in asthma control.

Appendix F

Adjustment of Inhaled Controller Therapy in Yellow Zone (aged >12yr)

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Adjustment of Inhaled Controller Therapy in the Yellow Zone,
Based on Inhaler Product Used in the Green Zone
Age 12 Years and Older

Note: For all examples, adjustment of the maintenance dose does not exceed the manufacturer's recommended maximum daily dose. As a result, it is not possible to recommend an evidenced-based 4-fold increase in the maintenance ICS dose in all dosage situations. In the absence of an evidence-based option, clinicians exercising clinical judgment may choose a 2-fold or 3-fold increase in the ICS dose. Initiating prednisone in the yellow zone is also an alternative evidence-based option.

Maintenance Controller Medication in the Green Zone	Daily maintenance ICS dose in mcg	Dose adjustment using the patient's existing inhaler	Dose of ICS after adjustment	Total daily ICS dose In mcg	Degree of increase in ICS
Fluticasone pMDI					
• 125 mcg/puff 1 puff bid*	250	4 puffs bid	500 mcg bid	1000	4-fold
• 125 mcg/puff 2 puffs bid	500	8 puffs bid**	1000 mcg bid	2000	4-fold
• 250 mcg/puff 1 puff bid*	500	4 puffs bid	1000 mcg bid	2000	4-fold
• 250 mcg/puff 2 puffs bid	1000	4 puffs bid	1000 mcg bid	2000	2-fold

*Although the manufacturer recommends that the usual dose be obtained using 2 puffs from each available strength of Flovent® HFA pMDI**, one** puff or **multiple** puffs may be required to obtain the prescribed dose.
**Switching from the 125 mcg to the 250 mcg pMDI will reduce the number of puffs required per dose.

Maintenance Controller Medication in the Green Zone	Daily maintenance ICS dose in mcg	Dose adjustment using the patient's existing inhaler	Dose of ICS after adjustment	Total daily ICS dose In mcg	Degree of increase in ICS
Fluticasone Diskus®					
• 100 mcg/inhalation 1 inh bid	200	4 inhalations bid	400 mcg bid	800	4-fold
• 250 mcg/inhalation 1 inh bid	500	4 inhalations bid	1000 mcg bid	2000	4-fold
• 500 mcg/inhalation 1 inh bid	1000	2 inhalations bid	1000 mcg bid	2000	2-fold

Dose based on 1 inhalation from each available strength of Flovent® Diskus®.
More than 1 inhalation may be required to obtain the prescribed maintenance dose from the patient's inhaler

Maintenance Controller Medication in the Green Zone	Daily maintenance ICS dose in mcg	Dose adjustment using the patient's existing inhaler	Total ICS dose after adjustment	Total daily ICS dose In mcg	Degree of increase in ICS
Budesonide Turbuhaler®					
• 100 mcg/inhalation 1 inh bid	200	4 inhalations bid	400 mcg bid	800	4-fold
• 200 mcg/inhalation 1 inh bid	400	4 inhalations bid	800 mcg bid	1600	4-fold
• 400 mcg/inhalation 1 inh bid	800	3 inhalations bid	1200 mcg bid	2400	3-fold

Dose based on 1 inhalation from each available strength of Pulmicort® Turbuhaler®.
More than 1 inhalation may be required to obtain the prescribed maintenance dose from the patient's inhaler.

Contributed by: Lawrence Jackson, BScPhm, Pharmacist, Sunnybrook Health Sciences Centre
Reviewers: Provider Education Program Committee

March 2014

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Maintenance Controller Medication in the Green Zone	Daily maintenance ICS dose in mcg	Dose adjustment using the patient's existing inhaler	Total ICS dose after adjustment	Total daily ICS dose In mcg	Degree of increase in ICS
Beclomethasone pMDI					
• 50 mcg/puff 1 puff bid	100	4 puffs bid	200 mcg bid	400	4-fold
• 50 mcg/puff 2 puffs bid	200	8 puffs bid	400 mcg bid	800	4-fold
• 100 mcg/puff 1 puff bid	200	4 puffs bid	400 mcg bid	800	4-fold
• 100 mcg/puff 2 puffs bid	400	4 puffs bid	400 mcg bid	800	2-fold

Dose based on 1 puff from each available strength of Qvar® inhaler.
More than 1 inhalation may be required to obtain the prescribed maintenance dose from the patient's inhaler.

Maintenance Controller Medication in the Green Zone	Daily maintenance ICS dose in mcg	Dose adjustment using the patient's existing inhaler	Total ICS dose after adjustment	Total daily ICS dose In mcg	Degree of increase in ICS
Ciclesonide pMDI					
• 100 mcg/puff 1 puff daily*	100	2 puffs bid	200 mcg bid	400	4-fold
• 100 mcg/puff 2 puffs daily	200	4 puffs bid	400 mcg bid	800	4-fold
• 200 mcg/puff 1 puff daily	200	2 puffs bid	400 mcg bid	800	4-fold
• 200 mcg/puff 2 puffs daily	400	2 puffs bid	400 mcg bid	800	2-fold
• 200 mcg/puff 2 puffs bid	800	No recommendation**			

*Dose based on 1 puff from each available strength of Alvesco® inhaler.
More than 1 inhalation may be required to obtain the prescribed maintenance dose from the patient's inhaler.
** Maintenance controller dose is at the daily maximum recommended dose

Maintenance Controller Medication in the Green Zone	Daily maintenance ICS dose in mcg	Dose adjustment using the patient's existing inhaler	Total ICS dose after adjustment	Total daily ICS dose	Degree of increase in ICS
Mometasone Twisthaler®					
• 200 mcg/inhalation 1 inh daily*	200	2 inhalations bid	400 mcg bid	800	4-fold
• 200 mcg/inhalation 1 inh bid	400	2 inhalations bid	400 mcg bid	800	2-fold
• 400 mcg/inhalation 1 inh daily	400	1 inhalation bid	400 mcg bid	800	2-fold
• 400 mcg/inhalation 1 inh bid	800	No recommendation**			

*Dose based on 1 puff from each available strength of Asmanex® Twisthaler®.
More than 1 inhalation may be required to obtain the prescribed maintenance dose from the patient's inhaler.
** Maintenance controller dose is at the daily maximum recommended dose

Maintenance Controller Medication in the Green Zone	Daily maintenance ICS dose in mcg	Dose adjustment using **additional** fluticasone pMDI or **switching** to the **higher strength** of Advair® pMDI	Total daily ICS dose In mcg	Degree of increase in ICS
Advair® pMDI Fluticasone/salmeterol*				
• 125/25 mcg 2 puffs bid	500	**Add** fluticasone 250 mcg/puff 3 puffs bid **or** **Switch** to Advair® 250/25 2 puffs bid	2000 1000	4-fold 2-fold
• 250/25 mcg 2 puffs bid	1000	**Add** fluticasone 250 mcg/puff 2 puffs bid	2000	2-fold

*Note: Since each puff from the Advair® pMDI delivers salmeterol 25 mcg, the manufacturer's recommended dose is 2 puffs from each available strength of Advair® pMDI in order to obtain 50 mcg of salmeterol.

Contributed by: Lawrence Jackson, BScPhm, Pharmacist, Sunnybrook Health Sciences Centre
Reviewers: Provider Education Program Committee

March 2014

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Maintenance Controller Medication in the Green Zone	Daily maintenance ICS dose in mcg	Dose adjustment using **additional** doses from the fluticasone Diskus or **switching** to a **higher strength** of Advair® Diskus® or combining the 2 strategies	Total daily ICS dose in mcg	Degree of increase in ICS
Advair® Diskus® Fluticasone/salmeterol*				
• 100/50 1 inhalation bid	200	**Add** fluticasone 100 mcg/inhalation 3 inhalations bid	800	4-fold
		or		
		Switch to Advair® 500/50, 1 inhalation bid	1000	5-fold
• 250/50 1 inhalation bid	500	**Add** fluticasone 250 mcg/inhalation 3 inhalations bid	2000	4-fold
		or		
		Switch to Advair® 500/50 1 inhalation bid	1000	2-fold
		or		
		Switch to Advair® 500/50 1 inhalation bid **plus** fluticasone 500 mcg 1 inhalation bid	2000	4-fold
• 500/50 1 inhalation bid	1000	**Add** fluticasone 500 mcg/inhalation 1 inhalation bid	2000	2-fold

Note: Each inhalation from Advair® Diskus® delivers salmeterol 50 mcg, which is the maximum single dose

Maintenance Controller Medication in the Green Zone	Daily maintenance ICS dose in mcg	Dose adjustment using **Additional** mometasone Twisthaler® **or switching** to a higher strength of Zenhale®	Total daily ICS dose in mcg	Degree of increase in ICS
Zenhale® pMDI Mometasone/formoterol*				
• 50/5 2 puffs bid	200	**Add** mometasone 200 mcg/inhalation 3 inhalations daily	800	4-fold
		or		
		Switch to Zenhale® 200/5 2 puffs bid	800	4-fold
• 100/5 2 puffs bid	400	**Add** mometasone 200 mcg/inhalation 1 inhalation bid	800	2-fold
		or		
		Switch to Zenhale® 200/5 2 puffs bid	800	2-fold
• 200/5 2 puffs bid	800	No recommendation**		

*Dose based on 2 puffs from each available strength of Zenhale® pMDI

Note: addition of mometasone Twisthaler® introduces a different device (dry powder inhaler—breath actuated) and may necessitate patient education

** Maintenance controller dose is at the daily maximum recommended dose

Contributed by: Lawrence Jackson, BScPhm, Pharmacist, Sunnybrook Health Sciences Centre
Reviewers: Provider Education Program Committee

March 2014

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Maintenance Controller Medication in the Green Zone	Daily maintenance ICS dose in mcg	Dose adjustment using **Existing Symbicort® Turbuhaler®**	Total daily ICS dose	Degree of increase in ICS
Symbicort® Turbuhaler® Budesonide/formoterol*		<u>Symbicort® Adjustable Maintenance Dosing</u>		
• 100/6 1 inhalation daily	100	Increase to 4 inhalations/day	400 mcg	4-fold
• 100/6 1 inhalation bid	200	Increase to 4 inhalations bid	800 mcg	4-fold
• 100/6 2 inhalations daily	200	Increase to 4 inhalations bid	800 mcg	4-fold
• 100/6 2 inhalations bid	400	Increase to 4 inhalations bid	800 mcg	2-fold
• 200/6 1 inhalation daily	200	Increase to 4 inhalations/day	800 mcg	4-fold
• 200/6 1 inhalation bid	400	Increase to 4 inhalations bid	1600 mcg	4-fold
• 200/6 2 inhalations daily	400	Increase to 4 inhalations bid	1600 mcg	4-fold
• 200/6 2 inhalations bid	800	Increase to 4 inhalations bid	1600 mcg	2-fold
		<u>Symbicort® Maintenance and Reliever Therapy (SMART)</u>		
• 100/6 1 or 2 inhalations daily or bid	100 to 400	In addition to the maintenance dose, may take as needed doses up to 6 inhalations at a time and a maximum of 8 inhalations per day in total.	Up to 800 mcg/day	Up to 4-fold
• 200/6 1 or 2 inhalations daily or bid	200 to 800		Up to 1600 mcg/day	Up to 4-fold

*Dose based on 1 inhalation from each available strength of Symbicort® Turbuhaler®.

Contributed by: Lawrence Jackson, BScPhm, Pharmacist, Sunnybrook Health Sciences Centre
Reviewers: Provider Education Program Committee

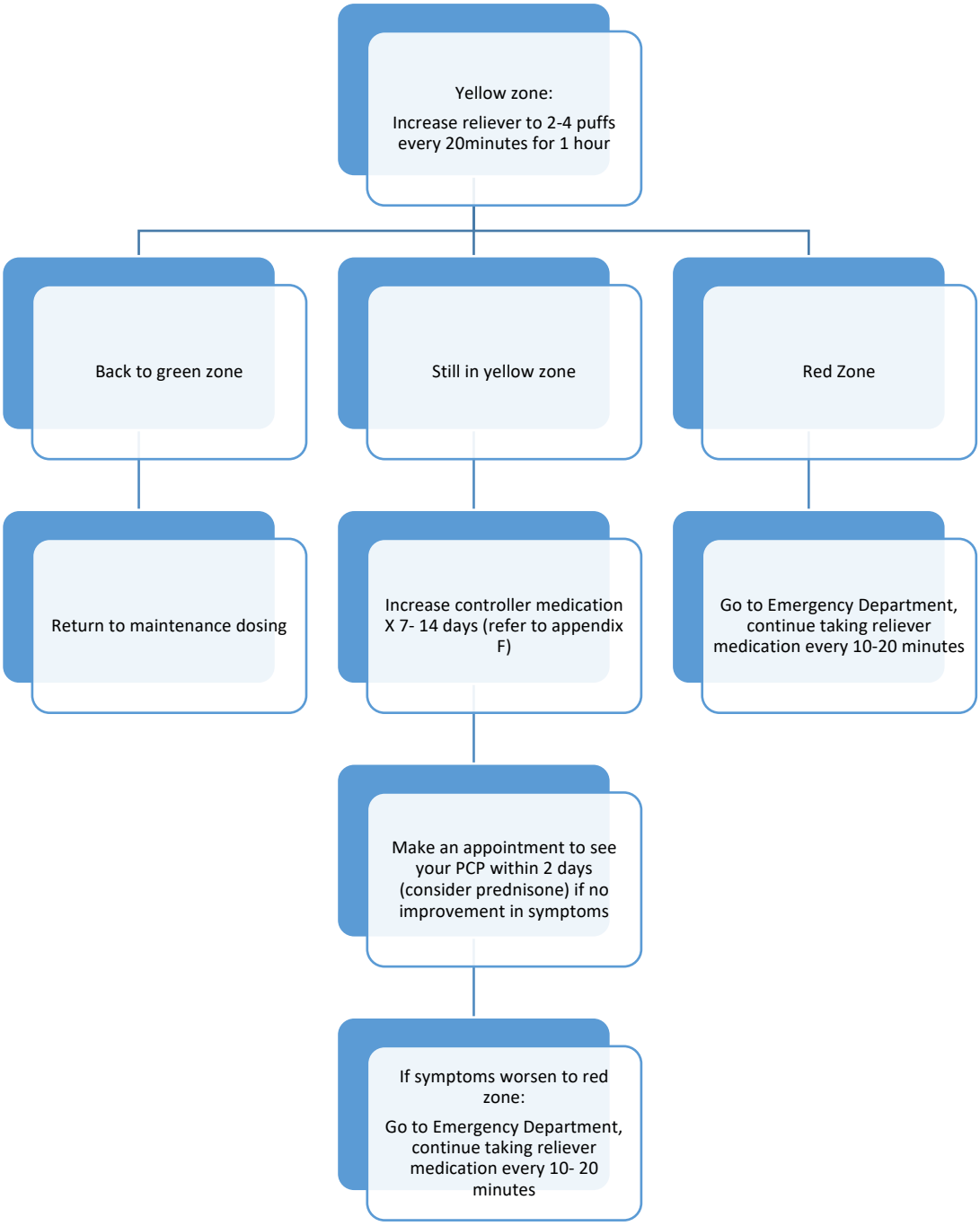
March 2014

Appendix G

Completion of a Written, Individualized Asthma Action Plan for >12 years

Uncontrolled Asthma (Yellow Zone)

A patient is in the yellow zone, if any of the "*what to look for*" symptoms are ticked off on the AAP, and none of the red zone symptoms are ticked off.



Adults (12 yrs old and over)[5]

Maintenance Therapy	**Recommended controller step-up therapy for the Action Plan "Yellow Zone"**	
	1st choice	**2nd choice**
No maintenance	Consider starting regular controller therapy	None
ICS	Trial >/= 4 – fold increase in ICS X 7 – 14 days*	Add prednisone 30-50mg X at least 5 days
ICS/LABA (budesonide/formoterol)	Increase to maximum 4 puffs BID X 7-14 days (maximum 8 puffs per day)*	Add prednisone 30-50mg X at least 5 days
ICS/LABA (fluticasone/salmeterol) OR (mometasone/formoterol)	Trial >/= 4 – fold increase in ICS X 7 – 14 days*	Add prednisone 30-50mg X at least 5 days
*dosing should not exceed manufacturer's recommended maximum daily dose, refer to appendix F		

Notes:

- The implementer will write the specific name of the reliever or controller medication onto the AAP.
- For both adults and children >6yrs old: If, according to the implementer's judgment, the patient/caregiver is unable to safely follow the above steps, he/she will be directed to see a physician as soon as possible when symptoms suggestive of uncontrolled asthma arise. Patients at high risk of death from asthma will be also encouraged to seek medical attention early during an exacerbation.
- *Risk factors for death from asthma include:* history of previous severe exacerbation (e.g. intubation), two or more hospitalizations for asthma in the past year, three or more emergency room (ER) visits for asthma in the past year, hospitalization or ER visit for asthma in the past month, using >2 canisters of SABA per month, difficulty perceiving asthma symptoms or severity of exacerbations, low socioeconomic status, illicit drug use, major psychosocial problems, cardiovascular disease, other chronic lung disease and chronic psychiatric disease.

Appendix H

Taddle Creek Family Health Team
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M6G 1K7
Phone: 416-538-3939

Dear Office Notes:

As per verbal order from Dr. Jackson, this patient requires a spacer for proper deposition of their inhaled medication. Authorized through TCFHT Medical Directive #12.

Yours truly,

RN Emma MacGregor