

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
----------------	-------------------------	--

GOALS

SHORTNESS OF BREATH, WHEEZE, COUGH	≤ 2 DAYS / WEEK
NIGHT TIME AWAKENINGS	≤ 2 TIMES / MONTH
ACTIVITY INTERFERENCE	NONE
SABA* USE FOR SYMPTOM CONTROL	≤ 2 DAYS / WEEK
FEV ₁ * OR PEAK FLOW	> 80% PREDICTED OR PERSONAL BEST
EXACERBATIONS REQUIRING ORAL STEROIDS	0-1 PER YEAR

ALERTS

- ▶ Losing control: ↑ symptoms, ↑ SABA use, ↓ PEF*, etc.
- ▶ SaO₂ < 92 %
- ▶ Can't speak more than one to two words per breath
- ▶ PEF < 50% predicted or personal best
- ▶ Silent chest, cyanosis, confusion, or coma

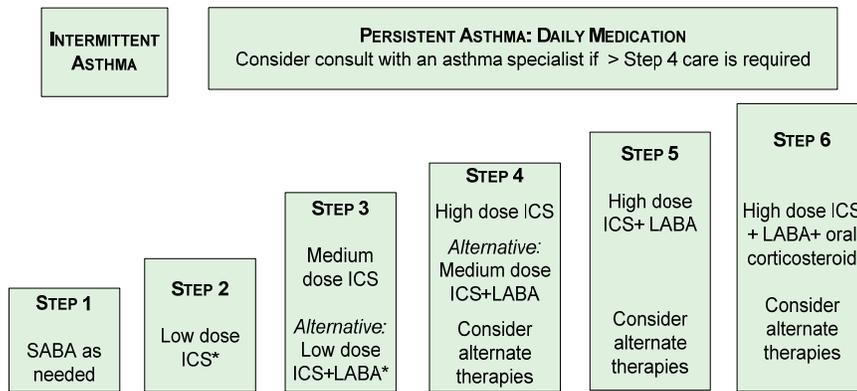
DIAGNOSTIC CRITERIA/EVALUATION

SEVERITY CLASSIFICATION	INTERMITTENT	PERSISTENT		
		MILD	MODERATE	SEVERE
SYMPTOM FREQUENCY	≤ 2 days/week	> 2 days/week but not daily	Daily	Throughout day
NIGHTTIME AWAKENINGS	≤ 2 times/month	3-4 times/month	> 1 day / week but not nightly	Often 7 days/week
INTERFERENCE WITH NORMAL ACTIVITY	None	Minor	Some	Extreme
SPIROMETRY LUNG FUNCTION	Normal FEV ₁ between exacerbations FEV ₁ > 80% predicted FEV ₁ / FVC* normal	FEV ₁ > 80% predicted Normal FEV ₁ / FVC normal	FEV ₁ > 60% predicted but < 80% predicted FEV ₁ / FVC reduced ≤ 5% daily	FEV ₁ < 60% predicted FEV ₁ / FVC reduced > 5%

EXAMINATION INCLUDING:

- Medications, smoking history, hospitalizations/intubations due to asthma; known triggers; seasonal variability; vaccination history
- Spirometry if diagnosis in question (Pre and post bronchodilator– should see ≥ 12% [and 200 ml] increase in FEV₁)
- Exam including heart and lung, complete vitals (BP, P, RR, SaO₂, T, Ht/Wt). Obtain baseline peak flow. Consider peak flow at follow up if signs or symptoms of increased severity of asthma
- Differential diagnosis: other pulmonary diseases, cardiac disease, infectious disease, airway obstruction, etc

TREATMENT OPTIONS



▶ **EACH STEP: PATIENT EDUCATION, ENVIRONMENTAL CONTROL, AND MANAGEMENT OF COMORBIDITIES.**

▶ **QUICK RELIEF MEDICATION FOR ALL PATIENTS**

- SABA as needed for symptoms. Intensity of treatment depends on severity of symptoms: up to 3 treatments at 20 minute intervals as needed. Short course of oral corticosteroids may be needed.
- Use of SABA > 2 days a week for symptom relief (not for prevention of EIB*) generally indicates inadequate control and the need to step up treatment

NIH alternate drugs: LTRA*, montelukast or theophylline (see page 5)
Adapted for correctional setting from NIH Guidelines: National Asthma Education and Prevention Program Expert Panel 3 2007

Please see page 2 of this Care Guide for FDA Black Box Warning/Public Health Advisory on the use of LABAs

Monitoring

- If patient has achieved treatment goals and is clinically stable on at least two consecutive encounters, the patient may be reevaluated every 180 days unless the PCP determines the patient needs more frequent monitoring.
- If recent exacerbation, follow closely until patient is clinically improved.
- If not at treatment goal, use clinical judgment for more frequent monitoring timeframe.
- Consider documenting PEF rate on asthma related chronic care visits.
- Document and monitor medication adherence.

***Definition of Terms:**
 SABA - Short Acting Beta Agonist
 LABA - Long Acting Beta Agonist
 ICS - Inhaled Corticosteroids
 EIB - Exercise Induced Bronchospasm
 LTRA - Leukotriene Receptor Antagonist
 PEF - Peak Expiratory Flow
 FEV₁ - Forced Expiratory Volume in One Second
 FVC - Forced Vital Capacity

Information contained in the Care Guide is not a substitute for a health care professional's clinical judgment. Evaluation and treatment should be tailored to the individual patient and the clinical circumstances. Furthermore, using this information will not guarantee a specific outcome for each patient. Refer to "Disclaimer Regarding Care Guides" for further clarification.

SUMMARY

DECISION SUPPORT

PATIENT EDUCATION/SELF MANAGEMENT

Cautions Regarding Long Acting Beta Agonists (LABAs)**WARNING: The following is not reflected in the 2007 NIH Guidelines.**

Due to concerns about the potential for Long Acting Beta Agonists (LABAs) to cause an increased risk of fatal and near-fatal asthma attacks the Federal Drug Administration required a **Black Box Label for LABAs** and issued a public health advisory on February 18, 2010 stating:

- The **use of LABAs is contraindicated without the use of an asthma controller medication** such as inhaled corticosteroid. Single-agent LABAs should only be used in combination with an asthma controller medication; they should not be used alone.
- LABAs should be **used for the shortest duration of time** required to achieve control of asthma symptoms and discontinued, if possible, once asthma control is achieved. Patients should then be maintained on an asthma controller medication.
- LABAs should **only be used long-term in patients whose asthma cannot be adequately controlled on asthma controller medications.**
- Pediatric and adolescent patients who require a LABA in addition to an inhaled corticosteroid should use a combination product containing both an inhaled corticosteroid and a LABA to ensure compliance with both medications.

(The recommendations above apply to the use of LABAs in treatment of asthma - they do not apply to treatment of COPD)

Discussion:

- According to UP TO DATE January 24, 2011, "Many experts believe that inhaled glucocorticoids diminish or prevent the potential risk of long-acting beta agonists, while others believe the data are insufficient to warrant this conclusion. However, despite these potential risks in small numbers of patients, salmeterol in combination with inhaled glucocorticoids significantly reduces exacerbation rates in the majority of adults. Thus, as with all medications, the proper balance between risk and benefit with combination therapy should be individually evaluated and prospectively monitored over time."

Conclusion:

CCHCS Clinical Guidelines Committee recommends the following (based on the 2007 NIH Asthma Treatment Guidelines and the FDA recommendations):

- LABAs should not be used to treat mild intermittent or mild persistent asthma.
- LABAs should never be used as monotherapy and should always be combined with an inhaled corticosteroid.
- In the management of non-adherent patients who required LABAs and ICS, a combination LABA/ICS should be prescribed to ensure compliance and avoid LABA monotherapy.
- Discontinue LABA (or discontinue combination ICS and LABA) whenever possible once asthma is stable.

SUMMARY **DECISION SUPPORT** **PATIENT EDUCATION/SELF MANAGEMENT**

CHRONIC ASTHMA

ABBREVIATIONS:

ICS: Inhaled Corticosteroid

PEF: Peak Expiratory Flow

FEV₁: Forced Expiratory Volume in one second

EIB: Exercise Induced Bronchospasm

ASSESSMENT:

- History and physical including PEF
- If needed, confirm diagnosis with spirometry
- Patient education including nursing verification of correct inhaler technique
- Identify triggers-seasonal? URI? Fumes?
- May use ACAT form (See page 7) completed by patient, nurse, or PCP to identify asthma symptoms. Reports of EIB alone, without objective evidence of EIB, is not an indication for continued use of SABAs or ICS

ICS Dosing:

Fluticasone
(Formulary agent- Flovent HFA®):
Strengths; 44, 110 or 220 mcg/puff

“Low” Dose: 44-110 mcg twice daily
“Med” Dose: 220 mcg twice daily
“High” Dose: 440 mcg twice daily

Consider tapering to lower dose when patient stable.

NIH Asthma Guidelines (NIH, 2007)



INTERMITTENT

- Symptoms ≤ 2 times/week
- Nighttime symptoms ≤ 2 times/month
- Asymptomatic and normal PEF between exacerbations
- Exacerbations brief (hours to days)
- FEV₁ or PEF ≥ 80% predicted

MILD PERSISTENT

- Symptoms ≥ 2 times/week but not daily
- Nighttime symptoms three to four times per month
- Exacerbations cause minor activity limitations
- FEV₁ or PEF > 80% predicted

MODERATE PERSISTENT

- Daily symptoms
- Daily use of SABA
- Nighttime symptoms more than once per week
- Exacerbations cause some activity limitations
- Exacerbations may last many days
- FEV₁ or PEF 60% to 80% predicted

SEVERE PERSISTENT

- Continual symptoms
- History of intubation or ICU admission
- ≥ 2 hospitalizations in past year for asthma
- Extreme physical limitations
- Frequent exacerbations
- Frequent nighttime symptoms
- FEV₁ or PEF < 60% predicted and variability > 30%

INITIAL TREATMENT RECOMMENDATIONS BASED ON SEVERITY

INTERMITTENT TREATMENT

- Generally no ICS, unless seasonal use needed
- “Rescue” SABA two puffs up to four times daily as needed

MILD PERSISTENT TREATMENT

- Low dose continuous ICS or consider intermittent use of ICS for flares
- “Rescue” SABA two puffs, four times daily as needed

MODERATE PERSISTENT TREATMENT

- Medium dose ICS
- “Rescue” SABA two puffs four times daily as needed

SEVERE PERSISTENT TREATMENT

- High dose ICS
- “Rescue” SABA two puffs four times daily PRN
- Consider short-term addition of LABA (salmeterol one puff twice daily), or combination ICS + LABA (Dulera®)
- Note Black Box warning



NO

Reevaluate classification
Start ICS under Mild Persistent Treatment
Follow up every month

YES

Follow-up as clinically indicated (but at least every 180 days) with history, clinical assessment, and PEF when indicated[†]

NO

Reevaluate classification
Step up ICS to Moderate Persistent Treatment
Follow-up every month

NO

Reevaluate classification
Step up ICS to Severe Persistent Treatment
Follow-up every month

YES

Follow-up as clinically indicated (but at least every 180 days) with history, clinical assessment, and PEF when indicated[†]

NO

Consider course of oral steroids
Consider referral to pulmonology
Follow-up every week

*Decreased peak flow with good respiratory effort, decreased O₂ saturation from baseline or < 95%, wheezing and/or decreased or abnormal breath sounds on exam, or typical spirometry changes

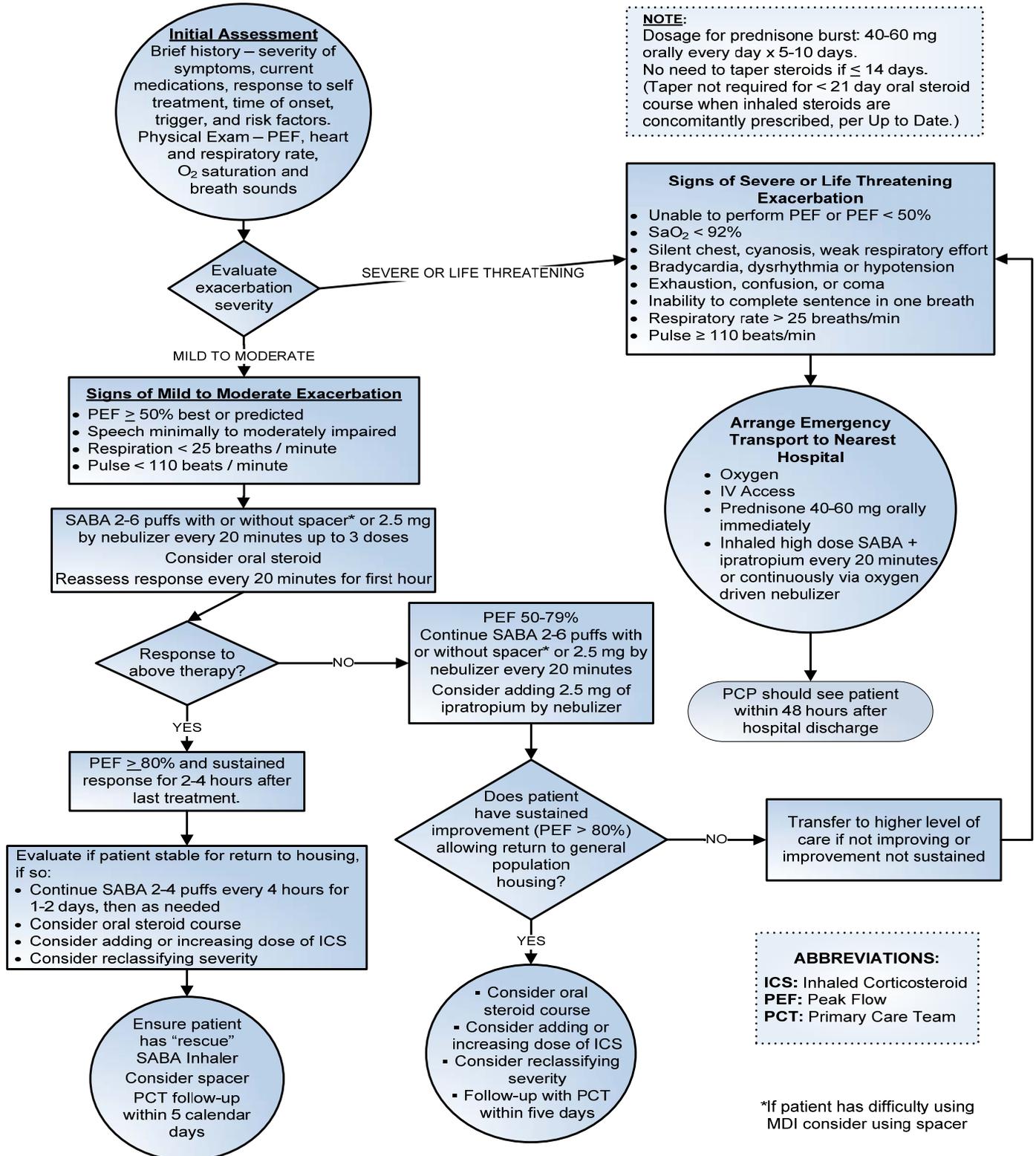
[†]PEF performed and documented at baseline and repeated with objective evidence of uncontrolled disease.

Spirometry if diagnosis in question

SUMMARY **DECISION SUPPORT** **PATIENT EDUCATION/SELF MANAGEMENT**

ACUTE ASTHMA

NOTE:
 Dosage for prednisone burst: 40-60 mg orally every day x 5-10 days.
 No need to taper steroids if ≤ 14 days.
 (Taper not required for < 21 day oral steroid course when inhaled steroids are concomitantly prescribed, per Up to Date.)



References:
 Adapted for correctional setting: National Asthma Education and Prevention Program Expert Panel Report2: Guidelines for the Diagnosis and Management of Asthma
<http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.htm>
 NCCHC Clinical Guidelines for Correctional Facilities: Treatment of Asthma in Adults in Correctional Institutions. Apr 2006.
<http://www.ncchc.org/resources/clinicalguides/asthma.pdf>

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
----------------	-------------------------	--

Medications

MEDICATION CLASS	MEDICATION	DOSE	SIDE EFFECTS	COMMENTS
SHORT ACTING BETA AGONIST (SABA)	levalbuterol inhaled (Xopenex HFA®) MDI 45 mcg/puff	MDI 90 mcg/puff 1-2 puffs every 4-6 hrs 200 puffs/inhaler	tachycardia, palpitations, tremor, hyperglycemia, hypokalemia, lactic acidosis, rare paradoxical bronchospasm	Rescue inhaler. Encourage proper use. Orders for SABA for asthma should include the indication. Recommend that prescribers write "standard asthma" for the sig. The typewritten sig will state: <i>Asthma rescue inhaler – NOT FOR DAILY USE. If Asthma flares, use two puffs by mouth every six hours as needed. Talk to primary healthcare provider if using more than twice a week. This inhaler should last at least 90 days. KOP.</i>
	albuterol 2.5 mg / 3 ml solution (nebulizer)	2.5 mg / nebulizer treatment up to 3 to 4 times per day	See above	
LONG ACTING BETA AGONIST (LABA)	salmeterol inhaled (Serevent®) 50 mcg / blister DPI	50 mcg every 12 hrs Attempt taper once patient is stable Do NOT use for acute asthma symptoms 60 doses / diskus	Headache, neuromuscular and skeletal pain, throat irritation/ inflammation	Black box warning: LABAs increase risk of asthma-related death. Should only be used as adjuvant therapy in patients not adequately controlled on high dose inhaled corticosteroids or whose disease requires two maintenance therapies. Use higher doses of LABA with caution in patients with CAD, arrhythmias, or HTN. Contraindicated in status asthmaticus.
INHALED CORTICOSTEROID (ICS)	fluticasone inhaled (Flovent HFA®) 44, 110, 220 mcg / puff MDI	88 to > 440 mcg twice daily Low dose: 44-110 mcg twice daily Med dose: 220 mcg twice daily High dose: 440 mcg twice daily 120 puffs/ inhaler	Headache, arthralgia, throat inflammation, vomiting, dry mouth, cough, hoarseness, oral candidiasis, rare paradoxical bronchospasm, rare cases of hypersensitivity, angioedema	Contraindicated in status asthmaticus Rinse mouth after use
	beclomethasone (QVAR®) 40, 80 mcg / puff MDI	40-80 mcg twice daily Max 640 mcg/day 200 puffs/inhaler	See above	Contraindicated in status asthmaticus Rinse mouth after use
	triamcinolone (Azmacort®) 60 mg / puff MDI	2 puffs three-four times daily or 4 puffs twice daily 240 puffs / inhaler	See above	Contraindicated in status asthmaticus Shake well before use. Rinse mouth after use
	mometasone (Asmanex Twisthaler®) 110 mcg or 220 mcg/ puff DPI	220 mcg once daily in evening, 220 mcg twice daily or 440 mcg once daily in PM (counter in device tells remaining doses)	See above	Contraindicated in status asthmaticus Rinse mouth after use
CORTICOSTEROID ORAL	Prednisone tablets 5 mg, 10 mg, 20 mg (to be used in burst fashion during exacerbation)	40-60 mg orally daily for 5-10 days No taper needed for short treatment interval [≤ 10 days]	GI upset, psychiatric disturbances, bruising, immunosuppression, hypertension, fluid retention	Contraindicated in systemic fungal infections; avoid administration of live or live attenuated vaccines with immunosuppressive doses of prednisone
COMBINATION INHALER MEDICATIONS	ICS + LABA Mometasone + formoterol (Dulera®) HFA-MDI Low to moderate dose: 100 mg / 5 mcg High dose: 200 mg / 5 mcg	Standard asthma sig: 2 puffs twice daily for asthma maintenance. Should last 30 days. Refill # ___) Do not use LABA for acute asthma 120 puffs / inhaler (counter in device tells remaining doses)	Headache, URI, throat irritation, oral candidiasis, neuromuscular and skeletal pain, menstruation symptoms. Use higher doses of LABA with caution in patients with CAD, arrhythmias, or HTN	Black box warning: long-acting beta-2 adrenergic agonists (LABA) increase risk of asthma-related death. Attempt taper of LABA when patient is stable for three months, consider dose reduction of ICS after LABA discontinued.
	ICS + LABA Fluticasone + salmeterol (Advair Diskus®) [100/50, 250/50, 500/50]	1 puff twice daily 60 doses per device Do not use LABA for acute asthma.	ICS: see above LABA: see above Use higher doses of LABA with caution in patients with CAD, arrhythmias, or HTN	See above
LEUKOTRIENE INHIBITORS	montelukast (Singulair®) 10 mg tablet	10 mg orally each evening	Headache, dizziness, fatigue, fever, rash	Possible association between leukotriene inhibitor use and neuropsychiatric events including agitation, aggression, anxiety, dream abnormalities, hallucinations, depression, insomnia, irritability, restlessness, suicidal thinking and behavior (including suicide) and tremor.
OTHER ASTHMA MEDICATIONS	theophylline 100, 200, 300, 400, 450, 600 mg ER (bronchodilator) Restricted Formulary	300-600 mg / day divided daily to twice daily Restricted Formulary. When prescribing theophylline, the written order should contain, "asthma not controlled with inhaled corticosteroid" OR "patient adherence higher with oral regimen"	Tachycardia, flutter, headache, insomnia, restlessness, nausea, diarrhea, vomiting, tremor, difficulty urinating in men with prostatism. Significant drug interactions occur with phenytoin and cimetidine.	Use with caution in patients with cardiovascular disease, especially tachyarrhythmias; hyperthyroidism; peptic ulcer disease; history of seizures: may exacerbate these conditions. Monitor for signs and symptoms of theophylline toxicity (e.g., persistent or repetitive vomiting, tremor, tachycardia, confusion, seizures)
	ipratropium inhaled (Atrovent HFA®) 17mcg/puff Ipratropium solution: 500 mcg / 2.5 ml Restricted Formulary	8 puffs every 20 minutes as needed for up to 3 hours (give with SABA) 200 puffs / inhaler Nebulizer: 2.5 ml every 20 minutes for 3 doses for acute asthma in combination with SABA	URI symptoms, bronchitis, cough, headache, dizziness, dyspnea, tachycardia, dry mouth, nausea. Rare: rash, itching.	Used with SABA via oxygen driven nebulizer for acute asthma exacerbations. Anticholinergic effects may worsen BPH or narrow-angle glaucoma.

Bold = Formulary

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
----------------	-------------------------	--

SPECIALTY REFERRAL GUIDELINES

GENERALLY REFER PATIENTS TO PULMONOLOGIST WHO HAVE:

1. Asthma with complications or comorbidity (e.g. CO₂ retention, recent history of mechanical ventilation)
2. Continued asthma symptoms after maximal treatment, (e.g., multiple ER visits despite therapy)
3. Chronic corticosteroid use (e.g., on oral steroids > 4 weeks, or prolonged high-dose ICS used)

** DETAILED CRITERIA CAN BE FOUND ON INTER-QUAL SMART SHEETS**

PEAK FLOW PREDICTED- MEN

Predicted average peak expiratory flow for normal males (L/min)

Age	Height				
	60"	65"	70"	75"	80"
20	554	602	649	693	740
25	543	590	636	679	725
30	532	577	622	664	710
35	521	565	609	651	695
40	509	552	596	636	680
45	498	540	583	622	665
50	486	527	569	607	649
55	475	515	556	593	634
60	463	502	542	578	618
65	452	490	529	564	603
70	440	477	515	550	587

These values represent average normal values within 100 L/min. Predicted values for African American and Hispanic minorities are approximately 10 percent lower. Redrawn from Leiner, GC, et al, Am Rev Respir Dis 1963; 88:644.

PEAK FLOW PREDICTED- WOMEN

Predicted average peak expiratory flow for normal females (L/min)

Age	Height				
	55"	60"	65"	70"	75"
20	390	423	460	496	529
25	385	418	454	490	523
30	380	413	448	483	516
35	375	408	442	476	509
40	370	402	436	470	502
45	365	397	430	464	495
50	360	391	424	457	488
55	355	386	418	451	482
60	350	380	412	445	475
65	345	375	406	439	468
70	340	369	400	432	461

These values represent average normal values within 80 L/min. Predicted values for African American and Hispanic minorities are approximately 10 percent lower. Redrawn from Leiner, GC, et al, Am Rev Respir Dis 1963; 88:644.

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
----------------	-------------------------	--

STATE OF CALIFORNIA
ASTHMA CONTROL ASSESSMENT TOOL (ACAT)
 CDCR 7230-ACAT(02/13)

DEPARTMENT OF CORRECTIONS AND REHABILITATION

	1. Over the past 2 weeks, how often have you had breathing difficulties?				
	All the time.	Each day.	Many of the days.	Some of the days.	My breathing has not been difficult.
POINTS	1	2	3	4	5
	2. While sleeping, how often has your asthma caused you to wake up over the past 2 weeks?				
	Most of the nights.	About half of the nights.	Three or four times.	Once or twice.	Not at all in the last two weeks.
POINTS	1	2	3	4	5
	3. Over the past 2 weeks, how often have you needed to use your rescue inhaler?				
	More than twice a day.	Daily, but no more than twice a day.	About half the days.	One or two days.	I don't need to use it.
POINTS	1	2	3	4	5
	4. How do you feel your asthma is doing?				
	Bad.	Not so good.	OK.	Very good.	Great!
POINTS	1	2	3	4	5
	5. Over the past 2 weeks, has your asthma kept you from doing what you needed or wanted to do?				
	Yes, affects what I do most of the time.	Yes, often affects what I do.	Yes, sometimes.	Just a bit.	No, my asthma doesn't slow me down.
POINTS	1	2	3	4	5
	6. In the past month, has your asthma caused you so much breathing difficulty that you became frightened?				
	<input type="checkbox"/> Yes [subtract 5 points] This needs to be explored further with your provider. <input type="checkbox"/> No [no change in score]				
TOTAL SCORE	TOTAL SCORE (add points for questions 1 thru 5, <u>subtract</u> 5 points for question 6, if "yes")				
	Score > 20 Good control	Score 15 -19 Not good control		Score < 15 Poor control	
	Date:	Completed by: (Initial) _____ Patient _____ Health care staff _____ PCP		Reviewed by: (Initial) _____ Health care staff _____ PCP	
	PCP Printed Name:		PCP Signature:		
	Institution:		Housing Unit:		
	1. <u>Disability Code:</u> <input type="checkbox"/> TABE score ≤ 4.0 <input type="checkbox"/> DPH <input type="checkbox"/> DPV <input type="checkbox"/> LD <input type="checkbox"/> DPS <input type="checkbox"/> DNH <input type="checkbox"/> DNS <input type="checkbox"/> DDP <input type="checkbox"/> Not Applicable		2. <u>Accommodation:</u> <input type="checkbox"/> Additional time <input type="checkbox"/> Equipment <input type="checkbox"/> SLI <input type="checkbox"/> Louder <input type="checkbox"/> Slower <input type="checkbox"/> Basic <input type="checkbox"/> Transcribe <input type="checkbox"/> Other*		3. <u>Effective Communication:</u> <input type="checkbox"/> P/I asked questions <input type="checkbox"/> P/I summed information Please check one: <input type="checkbox"/> Not reached* <input type="checkbox"/> Reached *See chrono/notes
	4. <u>Comments:</u>		CDCR #: Last Name: First Name: MI: DOB:		

PATIENT EDUCATION/SELF MANAGEMENT

What is Asthma?

Asthma is a disease that affects your airways. Airways are the tubes that carry air in and out of your lungs. There are different kinds of asthma:

- ◆ **Intermittent:** You may have symptoms that come and go and are very mild. You do not need a “controller” inhaler, but you may sometimes need to use a “rescue” inhaler
- ◆ **Persistent:** You have worse symptoms that happen more often. You need a “controller” inhaler to keep from having symptoms
- ◆ **Exercise Related:** You only have symptoms when you exercise. You may need to use your “rescue” inhaler before starting to exercise

What Causes Asthma?

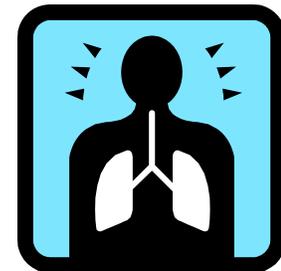
- ◆ Can be common in your family
- ◆ Is more common in people with allergies
- ◆ Pollution can either cause asthma or make it worse
- ◆ Being exposed to certain diseases as a child adds to the chance of getting asthma



What are the Symptoms of Asthma?

When you have asthma you may:

- ◆ Wheeze– make a loud or soft whistling sound when you breathe
- ◆ Cough a lot
- ◆ Feel short of breath
- ◆ Have trouble sleeping because of coughing or having a hard time breathing
- ◆ Get tired quickly during exercise
- ◆ Have symptoms that are worse at night



How is Asthma Diagnosed?

- ◆ Your health care provider will ask you about your medical history and examine you.
- ◆ Breathing tests may be needed to see how fast or deeply you breathe. Another test tells how much air is moving in and out of your lungs.

How is Asthma Treated?

Asthma causes the muscles around your airways to tighten. This shrinks the airways and makes breathing harder.

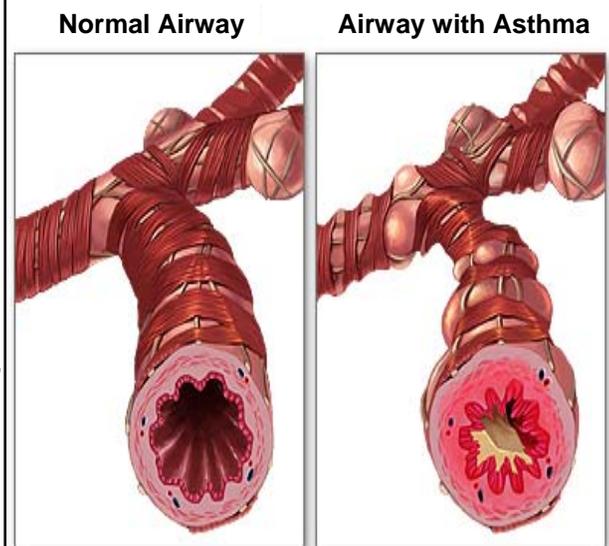
RESCUE INHALER- XOPENEX® (levalbuterol)

- ◆ Tightening or narrowing of the airways can happen fast, but it can also get better fast using a “rescue” inhaler.
- ◆ You should only need this type of inhaler once in a while. If you are using it daily, see your health care provider

CONTROLLER INHALER– FLOVENT® OR DULERA®

Asthma also causes long term swelling inside the airways. This swelling narrows the airway and makes breathing harder.

- ◆ The swelling is there most of the time, but a “controller” inhaler can help keep it down and keep your airways open. Use your controller inhaler every day or as directed by your health care provider.



PATIENT EDUCATION/SELF MANAGEMENT

How Do I Avoid Asthma Attacks?

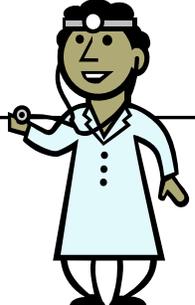
- ◆ Don't Smoke
- ◆ Be aware of things that can trigger an asthma attack and try to avoid them, such as strong emotions like anger, depression, or anxiety.
- ◆ Try not to catch a cold or the flu. Wash your hands often and get a flu shot every year
- ◆ Plan ahead and refill your prescription before it runs out

What Do I Do During an Asthma Attack?

1. Use your "rescue" inhaler right away. XOPENEX® (levalbuterol)
2. Sit down and loosen any tight fitting clothing. Do not lie down.
3. If you are not breathing better right away, take one puff of your "rescue" inhaler every minute for five minutes or until you are breathing better.
4. If you are not breathing better in five minutes, seek medical attention immediately.

Tell Your Health Care Provider How You Are Doing with Your Asthma

<p>Green Zone</p>  <p>Doing Well</p>	<ul style="list-style-type: none"> ▶ No trouble breathing ▶ Can do usual activities
<p>Yellow Zone</p>  <p>Asthma is Getting Worse</p>	<ul style="list-style-type: none"> ▶ Cough, wheeze, chest tightness, or shortness of breath ▶ Waking at night due to asthma symptoms ▶ Can do some, but not all, normal activities
<p>Red Zone</p>  <p>Medical Alert</p>	<ul style="list-style-type: none"> ▶ Very short of breath ▶ Quick-relief medicines have not helped (Not breathing better after using "rescue" inhaler every minute for five minutes) ▶ Cannot do normal activities ▶ Symptoms are the same or worse after 24 hours in the Yellow Zone <p>CONTACT MEDICAL/CUSTODY TO BE SEEN IMMEDIATELY</p>



A big part of your asthma control depends on you. Health care staff is here to help you, but you must do your part to help them give you the best care possible.

PATIENT EDUCATION/SELF MANAGEMENT

TWO WAYS TO USE AN INHALER

Open Mouth: many doctors prefer this, but some patients find it harder

The only difference is you do not put the inhaler in your mouth (Step 4 below)

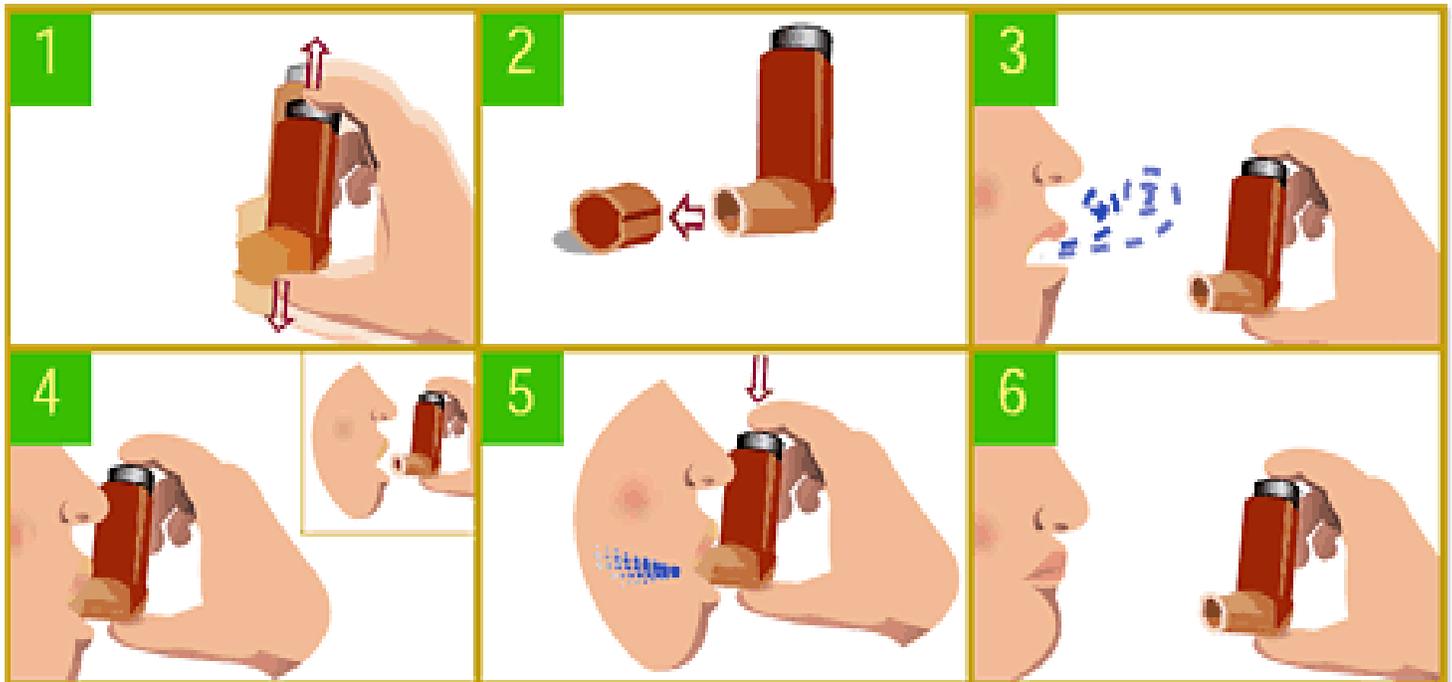
1. Shake the inhaler well before use (three or four shakes)
2. Remove the cap.
3. Breathe out, away from your inhaler.
4. Hold the inhaler about **1-2 inches from your mouth**.
5. Start to breathe in slowly, at the same time press the top of your inhaler to spray one puff and keep breathing in slowly until you've taken a full breath.
6. Hold your breath for about 10 seconds, then breathe out slowly.



If using controller (steroid) inhaler, rinse mouth after using.

Closed Mouth: Follow these six steps (see pictures 1-6)

1. Shake the inhaler well before use (three or four shakes)
2. Remove the cap.
3. Breathe out, away from your inhaler.
4. Bring the inhaler to your mouth. Place it in your mouth between your teeth and **close your mouth** around it. (Do not let tongue block the inhaler opening)
5. Start to breathe in slowly. Press the top of your inhaler to release one puff and keep breathing in slowly until you've taken a full breath.
6. Remove the inhaler from your mouth, and hold your breath for about 10 seconds, then breathe out. If using controller (steroid) inhaler, rinse mouth after using.



PATIENT EDUCATION/SELF MANAGEMENT

HINTS: WHEN YOU FIRST USE YOUR INHALER/CLEANING YOUR INHALER

The first time you use your inhaler (or if you have not used it in 7-10 days), point it away from you and press the top of the inhaler to “spray” 2-3 “puffs” to be sure the inhaler is working well.

To clean your rescue inhaler:

- Take the metal canister out of the plastic case.
- Wash the plastic case twice a week with mild soap and water. Rinse with running water.
- Shake off excess water.
- Air dry.
- Put the plastic case and metal canister together when **completely dry**.

To clean your daily controller (steroid) inhaler:

- Remove the cap. Keep the canister in the case.
- Wipe the opening where the metal canister meets the plastic case with a damp cloth.

USING A SPACER

A “spacer” is a tube that you use with your inhaler to help the medication get into your lungs better. Not everyone needs a spacer, but if you are having trouble using your inhaler, your nurse or doctor may recommend you use a spacer.

How to use spacer:

1. Remove the cap from the inhaler and from the spacer device. Shake well.
2. Insert the inhaler into the open end of the spacer (opposite the mouthpiece).
3. Place the mouthpiece of the spacer between your teeth and seal your lips tightly around it.
4. Breathe out completely.
5. Press the inhaler one time (one puff).
6. Breathe in slowly and completely through your mouth. If you hear a horn-like sound, you are breathing too quickly and need to slow down.
7. Hold your breath for at least 10 seconds to allow the medication to get into your lungs.
8. If your dose is more than one puff then wait at least one minute before doing another puff.
9. When finished, put the caps back on the inhaler and spacer.
10. If you are using a controller (steroid) inhaler rinse your mouth with water.

