

Care Guide for Management of Asthma			
Population	Physician/Patient	Recommendations	Frequency
Adults Pregnant and Lactating Women and Children Over Age 5	Confirm Diagnosis	<ul style="list-style-type: none"> <li>Consider asthma if any patient has history of recurrent symptoms of cough, wheeze, difficulty breathing or chest tightness</li> <li>Consider spirometry for diagnosis (repeated testing may be indicated)</li> </ul>	Initial visit and follow-up visits.
All Asthma Patients	Initial Physician Steps	<ul style="list-style-type: none"> <li>Relieve symptoms, consider pharmacologic treatment or appropriate therapy</li> <li>Implement treatment plan</li> <li>Implement Asthma Action Plan</li> <li>Consider referral to asthma specialist or allergist if indicated</li> <li>Provide influenza and pneumococcal vaccine if indicated</li> <li>Provide initial education and self management tools</li> <li>Refer to Disease Management Program</li> </ul>	Initial visit and follow-up visits.
All Asthma Patients	Patient Education	<p>Educate patient or parent regarding:</p> <ul style="list-style-type: none"> <li>Asthma risk factors and identification of triggers that cause asthma flare ups (pets, pollen, dust, mold, tobacco smoke, weather conditions, exercise, stress etc.) Document in a journal if needed</li> <li>Avoidance to triggers to exacerbation when possible.</li> <li>Signs and symptoms of exacerbation and use of Asthma Action Plan</li> <li>Medications, inhalers or nebulizers</li> <li>Monitoring asthma with peak flow meter (when age appropriate)</li> <li>Health maintenance role and reduction of asthma symptoms (such as smoking cessation, environmental control measures and exercise pre-treatment)</li> </ul>	Initial visit and follow-up visits
All Adult Asthma Patients and Children Over Age 5	Patient Self-Monitoring	<ul style="list-style-type: none"> <li>Ability to identify and avoid triggers when possible</li> <li>Ability to monitor asthma status with use of peak flow meter and rescue medication</li> <li>Ability to recognize an exacerbation and initiate medications according to their Asthma Action Plan</li> <li>Ability to recognize symptoms that should be reported to the physician</li> </ul>	Initial visit or with increasing symptoms
All Patients Identified As Tobacco Users	Identification of Tobacco Use and Intervention to Promote Tobacco Cessation	<ul style="list-style-type: none"> <li><b>Ask:</b> Identify all tobacco users with every visit</li> <li><b>Advise:</b> Strongly urge all tobacco users to quit</li> <li><b>Assess:</b> Determine willingness to quit</li> <li><b>Assist:</b> Aid the patient in quitting through education, self-help tips, nicotine replacement therapy or withdrawal medications</li> <li><b>Arrange:</b> Follow-up contact for progress/support</li> </ul>	Initial visit and follow-up visits

Population	Physician/Patient	Recommendations	Frequency
Children Under Age 5	Confirm Diagnosis	<p>Consider asthma if any of the following signs or symptoms are present:</p> <ul style="list-style-type: none"> <li>• Frequent episodes of wheezing (more than 1x /month)</li> <li>• Activity induced cough or wheeze</li> <li>• Cough particularly at night during periods without viral infections</li> <li>• Absence of seasonal variation in wheeze</li> <li>• Symptoms that persist after 3 years of age</li> <li>• Symptoms occur or worsen in the presence of : Animals, aerosol chemicals, change in temperature, dust mites, drugs (aspirin or beta blockers), exercise, pollen, respiratory infections, smoke or strong emotional expression</li> <li>• A cold that repeatedly “goes to the chest” or takes more than 10 days to clear</li> <li>• Symptoms improve when asthma medication is given</li> <li>• Consider allergy skin testing</li> </ul> <p><i>(In children under five years of age, the diagnosis of asthma is based largely on clinical judgment and an assessment of physical findings. Marked clinical improvement during the treatment and deterioration when treatment is stopped supports a diagnosis of asthma.)</i></p>	Initial visit and follow-up visits
Children Under Age 5	Children Self Monitoring	<ul style="list-style-type: none"> <li>• Ability by parent (or child) to identify and avoid triggers when possible</li> <li>• Ability to understand and administer medications (including the difference between control and rescue medications)</li> <li>• Ability to monitor asthma symptom status, recognize exacerbations and initiate medications according to Asthma Action Plan</li> <li>• Seek medical assistance when appropriate</li> </ul>	Initial visit or with increasing symptoms

#### Treatment of Children with Asthma 5 years and younger:

- Precludes detailed treatment recommendations.
- The best-documented treatment to control asthma in these age groups is inhaled Glucocorticosteroids.

#### Assessing Asthma Control (Use charts on following page)

1. Each patient should be assessed to establish his or her current treatment regimen, adherence to the regimen and **level of asthma control**. (chart 1)
2. After level of control is established, look at the treatment action (chart 2)
3. Assign one of the five treatment steps, to determine which reliever medication should be provided for symptom relief.
4. Step 2 should be selected for newly diagnosed patients or patients who currently are not on medications.
5. Step 3 should be selected if the patient is very symptomatic.
6. Patients who do not reach an acceptable level of control at Step 4 can be considered difficult-to-treat asthma. A compromise may need to be reached focusing on achieving the best level of control feasible-with as little disruption of activities and as few as symptoms as possible. Referral to asthma specialist may be needed.

**Levels of Asthma Control (Chart 1)**

Characteristics	Controlled (All of the following)	Partly Controlled (Any measure present in any week)	Uncontrolled
Daytime Symptoms	None (twice or less / week)	More than twice / week	Three or more features of partly controlled asthma present in any week
Limitations of activities	None	Any	
Nocturnal symptoms/awakening	None	Any	
Need for reliever/rescue treatment	None (twice or less / week)	More than twice / week	
Lung function (PEF or FEV <sub>1</sub> ) <sup>t</sup>	Normal	<80% predicted or personal best (if known)	
Exacerbations	None	One or more / year	One in any week

**Control Management (Chart 2)**

Level of Control	Treatment Action
Controlled	Maintain and find lowest controlling step
Partly controlled	Consider stepping up to gain control
Uncontrolled	Step up until controlled
Exacerbation	Treat as exacerbation

Reduce ←

→ Increase

**Treatment Steps**

Step 1	Step 2	Step 3	Step 4	Step 5
<b>As needed rapid-acting B<sub>2</sub>-agonist</b>	<b>As needed rapid-acting B<sub>2</sub>-agonist</b>			
<b>Controller Options</b>	<b>Select one</b>	<b>Select one</b>	<b>Add one or more</b>	<b>Add one or both</b>
	Low-dose inhaled ICS*	Low dose ICS plus long-acting B <sub>2</sub> -agonist	Medium or high-dose ICS plus long-acting B <sub>2</sub> -agonist	Oral glucocorticosteroid (lowest dose)
	Leukotriene modifier**	Medium or high-dose ICS	Leukotriene Modifier	Anti-IgE treatment
		Low-dose ICS plus Leukotriene modifier	Sustained release theophylline	
	Low-dose ICS plus sustained release theophylline			

\*ICS = Inhaled Glucocorticosteroids

\*\* = Receptor antagonist or synthesis inhibitors

## Peak Expiratory Flow Guidelines

Males	Height				
Age (Years)	(in) 60" (cm) 152	(in) 65" (cm) 165	(in) 70" (cm) 178	(in) 75" (cm) 191	(in) 80" (cm) 203
20	554	575	594	611	626
25	580	603	622	640	656
30	594	617	637	655	672
35	599	622	643	661	677
40	597	620	641	659	675
45	591	613	633	651	668
50	580	602	622	640	656
55	566	588	608	625	640
60	551	572	591	607	622
65	533	554	572	588	603
70	515	535	552	568	582
75	496	515	532	547	560

Height (in) (cm)		Males & Females	Height (in) (cm)		Males & Females
43	109	147	55	140	307
44	112	160	56	142	320
45	114	173	57	145	334
46	117	187	58	147	347
47	119	200	59	150	360
48	122	214	60	152	373
49	124	227	61	155	387
50	127	240	62	157	400
51	130	254	63	160	413
52	132	267	64	163	427
53	135	280	65	165	440
54	137	293	66	168	454

Females	Height				
Age (Years)	(in) 55" (cm) 140	(in) 60" (cm) 152	(in) 65" (cm) 165	(in) 70" (cm) 178	(in) 75" (cm) 191
20	444	460	474	486	497
25	455	471	485	497	509
30	458	475	489	502	513
35	458	474	488	501	512
40	453	469	483	496	507
45	446	462	476	488	499
50	437	453	466	478	489
55	427	442	455	467	477
60	415	430	443	454	464
65	403	417	430	441	451
70	390	404	416	427	436
75	377	391	402	413	422

References (2007):

[www.ginasthma.com](http://www.ginasthma.com)

[www.kcqic.org](http://www.kcqic.org)

[www.guidelines.gov](http://www.guidelines.gov)