

**Consider the diagnosis of “asthma” if there is frequent:**

1. Coughing, wheezing, or shortness of breath relieved by a bronchodilator
2. “Bronchitis” or “reactive airways disease” with colds, improved with a bronchodilator

NOTE: In all patients, especially below the age of 3 years, exclude other diagnoses (such as cystic fibrosis, aspiration, airway anomaly, GERD, foreign body, etc.)

**Symptom Assessment by Twos:**

- Symptoms > 2X per week  
or
- Awaken at night from asthma > 2X per mo.

NO

**Diagnosis: Intermittent Asthma**

YES

**Diagnosis: Persistent Asthma**

**Advise all patients with asthma:**

1. Identify and avoid triggers such as allergens (pollens, molds, animal dander, dust mites, cockroaches), smoke, sinus infections, and heartburn. Consider skin testing to identify potential allergens.
2. Always carry a short-acting beta-agonist (e.g. albuterol). Quick relief use of albuterol (by inhaler or nebulizer) can be used every 4 to 6 hours as needed for symptoms.
3. A course of oral corticosteroids may be needed if a flare-up occurs (such as “bronchitis” with colds).
4. For exercise-induced bronchospasm: albuterol 2 puffs inhaled 10 to 60 minutes prior to exercise.

**Treatment:**

**Daily Inhaled Corticosteroids**

(low to medium dose; see dosage chart on reverse)

Note: Patients using a metered dose inhaler should use a valved holding chamber device.

**Assess Control**

1. Review treatment every 1 to 3 months until stable then at least every 6 months.
2. Consider spirometry at least every one to two years to assess control (obtain more frequently if there are flare-ups).

**Indications of Insufficient Control**

1. Need for a bronchodilator more than twice per week or more than one canister per month.
2. Nighttime symptoms more than once per week.
3. Avoidance or impairment of activities
4. One hospitalization or more than one emergency visits in the past year.

1. Insure compliance with previous treatment.
2. Add a long-acting beta-agonist or leukotriene blocker to the inhaled steroid or increase to a moderate dose of the inhaled steroid.
3. Consider referral to an asthma specialist if there has been:
  - a) one past life threatening exacerbation
  - b) one past hospitalization
  - c) one or more emergency visits in the past year
4. See the Health Care Provider Alert on the reverse side of this page.

\* Adapted from the National Asthma Education and Prevention Program Expert Panel Report 2: Guidelines for the Diagnosis and Management of Asthma (1997). This guideline is designed to assist the clinician in the management of asthma. This guideline is not intended to replace the clinician's judgment or establish a protocol for all patients with a particular condition. For references, additional copies of the guidelines or patient documents, go to [www.coloradoguidelines.org](http://www.coloradoguidelines.org) or call 720-297-1681.

**Anti-inflammatories:** inhaled corticosteroids (below), leukotriene blockers, cromolyn, nedocromil

	FDA approved age (yrs)	Doses* (Total Daily Inhalations)		
		Low	Medium	High
AeroBid® (flunisolide) 150 mcg	6+	2-4	4-8	>8
Azmacort® (triamcinolone) 100 mcg	6+	4-10	10-20	>20
Pulmicort® (budesonide) DPI 200 mcg	5+	1-2	2-3	>3
Flovent (fluticasone) 44 (MDI) or 50 mcg (DPI)	12+ (MDI) 4+ (DPI)	2-6	2-6	>6
Flovent (fluticasone) 110 (MDI) or 100 mcg (DPI)	12+ (MDI) 4+ (DPI)	2	2-6	>6
Flovent (fluticasone) 220 (MDI) or 250 mcg (DPI)	12+ (MDI) 4+ (DPI)	-	1-3	>3
QVAR® 40 (beclomethasone)	5+	2-6	6-12	>12
QVAR® 80 (beclomethasone)	5+	1-3	3-6	>6
COMBINATION AGENT: Advair® (100,250,500/50) (fluticasone/salmeterol)	4+	(100/50) 2	(250/50) 2	(500/50) 2
NEBULIZER: Pulmicort Respules (mg)	1-8	0.25 qd	0.25 bid or 0.5 qd	0.5 bid

\* Adult doses listed. Children under age 12 years use 80% of the listed dosages.  
MDI = Metered Dose Inhaler    DPI = Dry Powder Inhaler

**Symptoms:** Assess coughing, wheezing, dyspnea, nighttime awakenings, frequency of acute care visits, absenteeism from work/school, interference with activities, and use of beta-agonists.

**Triggers:**

1. Identify and take steps to decrease relevant triggers such as pollen, molds, animal dander, dust mites, cockroaches, smoke, sinus infections, and reflux disease.
2. For exercise asthma use an albuterol inhaler 2 puffs 10 to 60 minutes prior to exercise.

**Help:** When to consider referral to an asthma specialist:

1. One past life threatening exacerbation
2. One hospitalization or one or more ER visits for asthma in the past year
3. Atypical signs and symptoms or other problems in differential diagnosis
4. Goals of asthma therapy not met after 3 to 6 months of treatment
5. Conditions complicating asthma (e.g. allergies, chronic sinusitis, reflux disease)
6. Not responding to moderate dose inhaled corticosteroid therapy
7. Dependency on oral corticosteroids (daily or more than 2 bursts in one year)
8. Need for additional resources

**Monitoring:**

1. Asthma is a 365-day-a-year condition. **Schedule routine follow-ups, not just acute care.**
2. Spirometry (age 5+) every 1-2 years. Home peak flow monitoring also adds objectivity.

**Action Plan:**

1. A written Action Plan given to the patient spells out what to take daily, what to take if symptoms start and/or peak flow drops, and what to do for a significant flare-up.
2. Written Action Plans are recommended to help reduce ER visits and hospitalizations.

# ASTHMA ACTION PLAN

Name: \_\_\_\_\_

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Dr. or Clinic: \_\_\_\_\_

Phone: \_\_\_\_\_

## GREEN ZONE Doing Well

- No coughing, wheezing, or shortness of breath
- Can do usual activities

AND

if a peak flow meter is used, your peak flow is at least:

\_\_\_\_\_ (80% or more of best\* peak flow)

Best\* peak flow: \_\_\_\_\_

(\*This is the personal best peak flow that you have consistently reached when doing well in the past year)

Personal Asthma Goal: \_\_\_\_\_

### Take these medicines every day for long-term control:

Name of med:	How much to take:	How often (or when):
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

- For metered dose inhalers use of a valved holding chamber is recommended
- Avoid cigarette smoke
- Avoid what you are allergic to (if unknown then discuss tests with your doctor)
- See your doctor every 1 to 6 months for preventive care
- 10 to 60 minutes **before exercise** you can take 2 puffs of albuterol

## YELLOW ZONE Caution

- Coughing, or wheezing, or shortness of breath, or
- Nighttime awakenings with symptoms

OR

Peak flow is between

\_\_\_\_\_ and \_\_\_\_\_ (50% to 80% of best)

### Take your GREEN ZONE meds plus for quick symptom relief take:

- Albuterol inhaler  2 puffs  4 puffs (for inhalers use of a valved holding chamber is recommended)
  - Albuterol premix vial by nebulizer machine
  - Albuterol \_\_\_\_\_ cc in \_\_\_\_\_ cc saline by nebulizer
  - Other medication: \_\_\_\_\_
- } every 4 to 6 hours for symptoms

If you need to take three treatments in one hour (either by inhaler or nebulizer), or if you need 12 puffs by inhaler or 3 treatments by nebulizer within 24 hours, proceed to the **RED ZONE** instructions below.

## RED ZONE Medical alert!

- Short of breath, or
- Coughing or wheezing not helped with meds, or
- Cannot do activities

OR

Peak flow less than \_\_\_\_\_ (50% of best)

1. Call your physician or clinic now (phone number above).
2. If extremely short of breath, call 911 immediately.
3. Continue the meds listed above plus:

- Instructions per your physician
- Oral corticosteroid \_\_\_\_\_ now
- Repeat albuterol every 20 minutes for a total of 3 doses while you go to the doctor's office or emergency department.

Remember that albuterol is just a short-acting bronchodilator for temporary relief. Corticosteroids are needed to control the inflammation in your lungs, which is the actual cause of the symptoms.

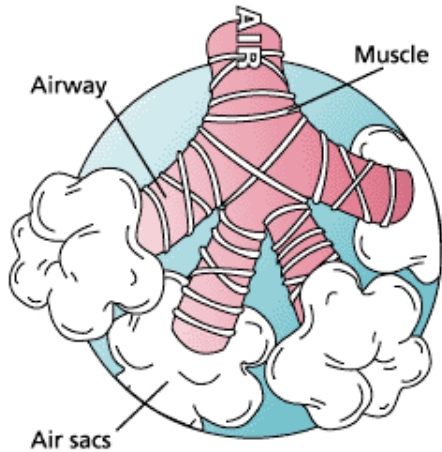
# Asthma Care Flowsheet for Medical Chart

(patient sticker here)

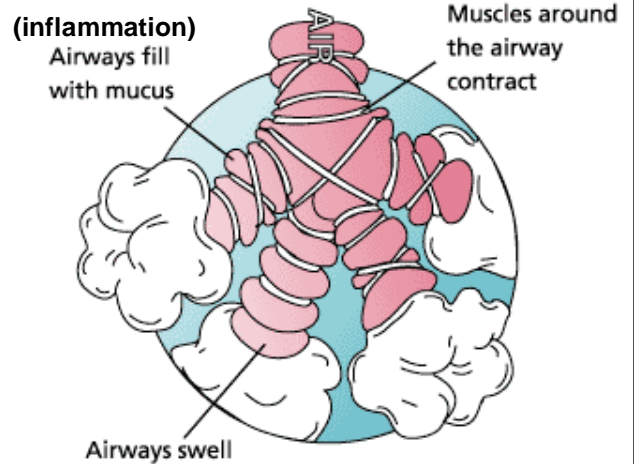
Patient Name: \_\_\_\_\_ DOB: \_\_\_\_\_ MR Number: \_\_\_\_\_  
Severity Rating:  Mild Persistent     Moderate Persistent     Severe Persistent  
Co-morbid Conditions: \_\_\_\_\_

<b>Date:</b>							
<b>A</b> nti-inflammatories	Daily doses prescribed for corticosteroids, leukotriene blockers, cromolyn, nedocromil						
<b>S</b> ymptom Control	Symptoms = coughing, wheezing, chest tightness, shortness of breath Score: 0 = no symptoms    + = mild symptoms    ++ = moderate    +++ = severe						
Daytime/Nighttime							
Exercise							
Flare-ups since last visit							
<b>T</b> riggers	E = environmental controls discussed    A = allergy testing done S = Sinusitis and rhinitis addressed    R = reflux disease addressed						
<b>H</b> elp (see indications on A-S-T-H-M-A form)	S = referral to Asthma Specialist    E = visit with Certified Asthma Educator						
<b>M</b> onitoring	OV = Outpatient (routine) Visit    AC = Acute Care Visit Routine visits should be every 1 to 6 months based on severity.						
Type of visit							
FEV1 % predicted every 1-2 yrs							
Peak flow reviewed (✓)							
<b>A</b> ction Plan	1. A written Action Plan can improve physician-patient communication. 2. An Action Plan can increase anti-inflammatory therapy early in a flare-up.						
Action Plan reviewed (✓) and Personal Best updated							
Meds for Action Plan updated							

**Before an Asthma Episode**



**After an Asthma Episode**



**Asthma is a 365-day-a-year condition: Take daily medication**

You may think of asthma as “I’m fine. I’m fine. Then I have a flare-up of asthma, go to my health provider and get fixed, and then I’m fine again.” Truth is, research shows that there is some inflammation (irritation) in the lungs of an asthma patient all year long. Just treating flare-ups is the roller-coaster approach to dealing with asthma and can lead to emergency visits, hospitalizations, or even death. The better routine is to stay on **daily anti-inflammatory medicine** to quiet down the inflammation. The preferred daily preventive medicine for chronic asthma is **inhaled corticosteroids**. Bronchodilators (like albuterol) just relieve symptoms; they do not fix the underlying cause of asthma. Daily use of an inhaled corticosteroid can decrease the disruptions in your life such as missing work or school or having poor sleep. In the long run the goal is to preserve the best lung function you can have throughout the decades of your life.

**Many “tools” are available to help you succeed with your asthma**

<b>Your Health Provider</b>	Always your most important resource. Talk with your provider routinely.
<b>Medications</b>	Inhaled corticosteroids are the first choice. Bronchodilators are for a quick-fix.
<b>Allergy Tests</b>	Allergies can worsen asthma. Testing can identify what allergies you have.
<b>Environment Products</b>	HEPA filters. Quit smoking aids. Mattress covers. Talk with your provider.
<b>Peak Flow meter</b>	If over 5 years of age, this home device can help show how you are doing.
<b>Spirometry</b>	Lung function testing that your doctor can order to follow your lungs.
<b>Flowsheet for chart</b>	Asthma is a chronic condition. A flowsheet is available to follow your care.
<b>Written Action Plan</b>	Talk with your doctor to fill in the reverse side of this page. An Action Plan tells you what to do daily and what to do when you have a flare-up of asthma.