

COVER SHEET - ASTHMA PATHWAY

11/2011

Include in the pathway:

- History of prior asthma exacerbation or wheezing
- Strong family history of asthma

Exclude from the pathway (Patients may be any of these):

- Patients in whom the diagnosis of asthma is unclear
- Patients with significant co-morbid condition including foreign body airway obstruction, congenital heart disease, bronchopulmonary dysplasia, significant neurologic impairment
- Patients with severe respiratory distress with altered mental status or respiratory acidosis
- Patients with prior intubation for asthma.

Patients should be considered for removal from the pathway if:

(nursing staff should contact physician if any of the following apply)

- No improvement in clinical condition in 24 hours
- Significant deterioration
- Primary diagnosis seems questionable

Criteria for Admission:

- SpO₂ < 92% on room air
- Marked respiratory distress
- Cyanosis
- History of prior life-threatening exacerbation

Criteria for Discharge:

- SpO₂ ≥ 92% on room air
- No respiratory distress
- Parental education complete or scheduled
- Able to demonstrate competent use of home medications and peak flow meter (if age appropriate)
- Safe home environment
- Complete Asthma Care Program form

Background Information:

- Asthma is largely an inflammatory disease. Without use of anti-inflammatory medications, recovery will be slow and usually incomplete.
- Long-term use of prophylactic anti-inflammatory medications is critical in maintaining good control of asthma and in reducing the risk of fixed airway obstruction due to airway remodeling.
- Since asthma is primarily an obstructive lung disease, peak flow meters provide a simple and objective measure of the status of a patient's asthma.
- **Bacterial super-infection is rare with asthma.** Apparent infiltrates on chest x-ray frequently represent atelectasis. In older children, when lower-tract infection is present, it is frequently caused by mycoplasma or chlamydia pneumoniae. Thus, broad spectrum antibiotics are rarely indicated in patients with asthma exacerbations. Oral macrolides such as erythromycin or azithromycin offer appropriate coverage for many of the patients who require antibiotics.

Goals:

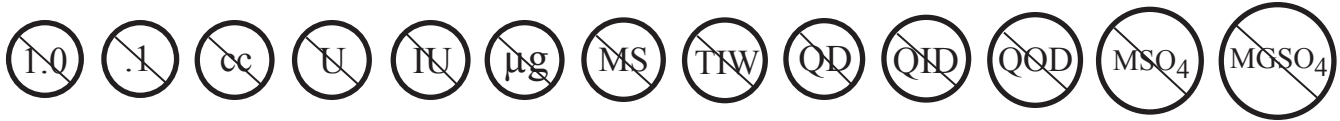
- Ensure appropriate use of steroids
- Reduce unnecessary use of antibiotics
- Initiate inhaled steroids
- Reduce reliance on nebulized medications
- Ensure full use of educational resources for patients and families
- Reduce unnecessary use of continuous pulse oximetry
- Increase use of peak flow meters

Szefer, Stanley J. 2008. "Advances in Pediatric Asthma in 2007." *Journal of Allergy Clinical Immunology* 121(3): 614-9

Stoloff, Stuart W. 2007. "Implication of the Asthma Guidelines for the Clinician" *Journal of Allergy and Clinical Immunology* 120(5): 1021-2

NOTE 1: Pathway default specifies oral steroids. I.V. steroids must be specifically requested at the time of initiating the pathway.

NOTE 2: Use of asthma pathway is appropriate even with pneumonia as long as asthma is the primary cause of respiratory distress



DRUG SENSITIVITY: _____ WT: _____ kg
ORDERS: GENERIC EQUIVELANT WILL BE DISPENSED UNLESS ORDER SPECIFIES "DO NOT SUBSTITUTE"

General

Admitting physician: _____
Attending physician: _____
Primary service: Hospitalist Team A Team B _____
Patient Status: Admit Observation
Admission Diagnosis: Asthma
Condition: Stable
Code status: Full Code or _____
Isolation: Standard

Dietary

Diet: Age-appropriate, no concentrated sweets diet, and encourage fluids.

IVF

Other: _____
 Saline lock PIV if taking po: Do not start IV unless IV medication has been ordered. Saline Lock PIV if already placed prior to admission.
 If Then, IVF: Do not restart if IV infiltrates, unless IV medication has been ordered.

Monitoring & Vitals

If Then, Feeding: If poor POs or vomiting, then start IV fluids at 1 times maintenance per policy using 4:2:1 formula. For children < 15 Kg, use D5 ¼ NS; add 20 mEq KCl/L. For children > 15 Kg, use D5 ½ NS; add 20 mEq KCl/L.
 Notify MD if, feeding: Monitor for adequate fluid intake. Encourage PO fluids to give at least 75% of maintenance. Notify physician if consistently taking less than 75% of maintenance for over 24 hours. Maintenance fluids are defined per policy using 4:2:1 formula. For children < 15 Kg, use D5 ¼ NS; add 20 mEq KCl/L. For children > 15 Kg, use D5 ½ NS; add 20 mEq KCl/L.

Medications

Inhaled Medications:

Albuterol Per protocol (Comment: put protocol order on hold whenever patient is on continuous albuterol).
 Fluticasone MDI 44 mcg/puff 2 puffs inhalation BID or _____
 Ipratropium MDI 2 puffs inhalation every 6 hours
 Albuterol low dose continuous until _____.
 Albuterol high dose continuous until _____.

Asthma

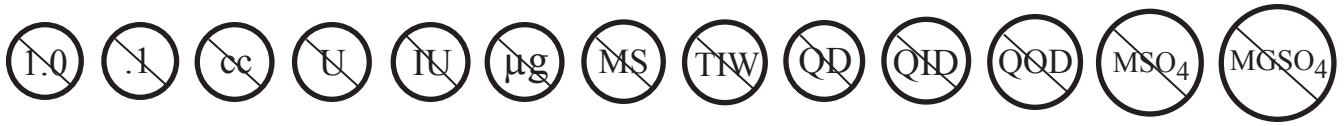
Patient Label

0032



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Physician's Order Sheet



DRUG SENSITIVITY:

WT:

kg

ORDERS: GENERIC EQUIVELANT WILL BE DISPENSED UNLESS ORDER SPECIFIES "DO NOT SUBSTITUTE"

Systemic Steroids:

- Prednisolone Initial dose 2 mg/kg (max = 60 mg) (if less than 2 mg/kg given in the ER, please give remaining dose when patient arrives to floor). Subsequent doses 1mg/kg (maximum 30 mg) every 6 hrs times 6 doses, then every 12 hrs.
- Prednisone Initial dose 2 mg/kg (max = 60 mg) PO x 1 dose (if less than 2 mg/kg given in the ER, please give remaining dose when patient arrives to floor). Subsequent doses 1mg/kg (max = 30 mg) PO every 6 hrs times 6 doses, then every 12 hrs.
- Methylprednisolone Initial dose 2 mg/kg (max = 60 mg) IV x1 dose (if less than 2 mg/kg given in the ER, please give remaining dose when patient arrives to floor). Subsequent doses 1mg/kg (max = 30 mg) IV every 6 hrs times 6 doses, then every 12 hrs.
- Dosing (same for prednisolone, prednisone, or methylprednisolone);
 - Initial dose 2 mg/kg (max = 60 mg) (if less than 2 mg/kg given in the ER, please give remaining dose when patient arrives to floor).
 - Subsequent doses 1mg/kg (max = 30 mg) every 6 hrs times 6 doses, then every 12 hrs.
- Acetaminophen: 15 mg/kg (max = 650 mg) PO every 4 hours PRN T > 38.0° C – 38.9° C or mild pain (max. dose = 75 mg/kg/day or 4000 mg/day, whichever is less). If patient's temperature remains above 38.0° C one hour after administration, then give Ibuprofen
- Acetaminophen: 15 mg/kg (max = 650 mg) PR every 4 hours PRN T > 38.0° C – 38.9° C or mild pain (max. dose = 75 mg/kg/day or 4000 mg/day, whichever is less). If patient's temperature remains above 38.0° C one hour after administration, then give Ibuprofen
- Ibuprofen: 10 mg/kg (max = 400 mg) PO every 6 hours PRN T > 38.9° C or moderate pain. If patient's temperature remains above 38.0° C one hour after administration, then give Acetaminophen.

Nursing Care

- VS every 2 hours times 2, then every 4 hours and PRN.
- Activity: No restrictions
- Notify MD If VS, RR: Call MD if consistently requiring every 2 hrs bronchodilator treatments, or if in significant respiratory distress, contact physician to consider continuous inhaled medication or altering treatment plan.
- If Then, Medication: If the patient is transitioned off continuous Albuterol, RCP is to order Albuterol standardized dose nebulized every 3 hours x 2 doses, and then per Albuterol RCP Protocol.
- RN communication: Nurse to contact pharmacy if necessary to substitute oral or liquid steroid preparations based on patient preference.
- Notify MD if, vomiting: If patient is vomiting oral steroids, contact MD in order to change to IV methylprednisolone.

Asthma

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Physician's Order Sheet



DRUG SENSITIVITY: _____ WT: _____ kg
ORDERS: GENERIC EQUIVELANT WILL BE DISPENSED UNLESS ORDER SPECIFIES "DO NOT SUBSTITUTE"

Oxygen/Ventilation

- Oxygen as needed to keep saturations > 92%, or for respiratory distress. Wean O2 as tolerated and discontinue when room air saturation is > 92%

Imaging

- CHEST AP or PA & LAT Reason: Asthma. Priority: Routine. Portable? No.
- CHEST AP or PA Reason: Asthma. Priority: _____. Portable? Yes.
- Load outside imaging CD or films for secondary interpretation (OFI)
- Load outside imaging CD or films – no interpretation (COF)

Lab

- Text box: CBC recommended for first episode of wheezing.
- CBC Auto Diff Stat

Education

- Education, Pathway: Initiate "Learning Assessment" and implement asthma education plan. BEGIN EDUCATION ON ADMISSION. MDI and peak flow teaching to be done throughout hospitalization. Enroll family in asthma class. Review asthma educational materials with family:
 - o Review "Patient Education Sheet" and reinforce education on signs of respiratory distress and reasons to call physician or return to ER
 - o Ensure that Asthma Home Care Program Management has been discussed with patient and family.

Discharge planning

- RN Communication DC Plan: FAX discharge instructions (once signed by physician), and Green/Yellow/Red asthma plan to primary care physician. Make follow up appointment with primary MD prior to discharge.
- _____

Other:

- Text Box: Order this if patient has had two or more asthma related prior admissions during the past 12 months and is 6 years old or older.
- Pulmonary Function Test (PFT): Priority: Routine. Instruction: Reason for study is Asthma. Nurse to ensure this is scheduled with Pulmonology Clinic. This should not delay discharge, and may alternatively be scheduled as an outpatient.
 - _____

Physician's Signature/ID Number: _____ Date: ____/____/____ Time: _____

Asthma

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Interdisciplinary Patient/Family Learning Evaluation

Initial Patient/Family Learner Assessment

A learning evaluation is done with each initial teaching intervention for each learner. Teaching interventions should be documented in an ongoing manner with ongoing assessment and evaluation of readiness to learn, barriers to learning, and learning outcomes. Use your department or topic specific Interdisciplinary Patient/Family Education Documentation forms for ongoing patient/parent/family education documentation. Use this form for the initial assessment of a learner and keep this form with the ongoing patient/family education documentation forms.

Initial Learner Evaluation (assess one or multiple learners)			
1. _____ Date _____ (Pt./Primary care giver)	2. _____ Date _____ learner	3. _____ Date _____ learner	4. _____ Date _____ learner
Prior Knowledge of Plan of Care or care needs: <input type="checkbox"/> Comprehensive <input type="checkbox"/> Good <input type="checkbox"/> Limited <input type="checkbox"/> None <input type="checkbox"/> Other _____	Prior Knowledge of Plan of Care or care needs: <input type="checkbox"/> Comprehensive <input type="checkbox"/> Good <input type="checkbox"/> Limited <input type="checkbox"/> None <input type="checkbox"/> Other _____	Prior Knowledge of Plan of Care or care needs: <input type="checkbox"/> Comprehensive <input type="checkbox"/> Good <input type="checkbox"/> Limited <input type="checkbox"/> None <input type="checkbox"/> Other _____	Prior Knowledge of Plan of Care or care needs: <input type="checkbox"/> Comprehensive <input type="checkbox"/> Good <input type="checkbox"/> Limited <input type="checkbox"/> None <input type="checkbox"/> Other _____
Primary Language: check <input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Hmong Other _____ <input type="checkbox"/> Writes <input type="checkbox"/> Reads	Primary Language: check <input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Hmong Other _____ <input type="checkbox"/> Writes <input type="checkbox"/> Reads	Primary Language: check <input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Hmong Other _____ <input type="checkbox"/> Writes <input type="checkbox"/> Reads	Primary Language: check <input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Hmong Other _____ <input type="checkbox"/> Writes <input type="checkbox"/> Reads
Readiness to learn: check <input type="checkbox"/> Asking pertinent questions <input type="checkbox"/> Actively Listening <input type="checkbox"/> Unreceptive <input type="checkbox"/> No interest demonstrated <input type="checkbox"/> Distracted	Readiness to learn: check <input type="checkbox"/> Asking pertinent questions <input type="checkbox"/> Actively Listening <input type="checkbox"/> Unreceptive <input type="checkbox"/> No interest demonstrated <input type="checkbox"/> Distracted	Readiness to learn: check <input type="checkbox"/> Asking pertinent questions <input type="checkbox"/> Actively Listening <input type="checkbox"/> Unreceptive <input type="checkbox"/> No interest demonstrated <input type="checkbox"/> Distracted	Readiness to learn: check <input type="checkbox"/> Asking pertinent questions <input type="checkbox"/> Actively Listening <input type="checkbox"/> Unreceptive <input type="checkbox"/> No interest demonstrated <input type="checkbox"/> Distracted
Barriers to learning: check <input type="checkbox"/> No barriers <input type="checkbox"/> Low literacy or Edu level <input type="checkbox"/> Cultural <input type="checkbox"/> Language <input type="checkbox"/> Visual, hearing, speaking <input type="checkbox"/> Religious, spiritual <input type="checkbox"/> Cognitive <input type="checkbox"/> Emotional <input type="checkbox"/> Motivation <input type="checkbox"/> Pain or fatigue <input type="checkbox"/> Other _____ Accommodation: <input type="checkbox"/> Interpreter <input type="checkbox"/> Audio <input type="checkbox"/> Visuals <input type="checkbox"/> Handouts <input type="checkbox"/> Explanations <input type="checkbox"/> Demonstrations <input type="checkbox"/> Other	Barriers to learning: check <input type="checkbox"/> No barriers <input type="checkbox"/> Low literacy or Edu level <input type="checkbox"/> Cultural <input type="checkbox"/> Language <input type="checkbox"/> Visual, hearing, speaking <input type="checkbox"/> Religious, spiritual <input type="checkbox"/> Cognitive <input type="checkbox"/> Emotional <input type="checkbox"/> Motivation <input type="checkbox"/> Pain or fatigue <input type="checkbox"/> Other _____ Accommodation: <input type="checkbox"/> Interpreter <input type="checkbox"/> Audio <input type="checkbox"/> Visuals <input type="checkbox"/> Handouts <input type="checkbox"/> Explanations <input type="checkbox"/> Demonstrations <input type="checkbox"/> Other	Barriers to learning: check <input type="checkbox"/> No barriers <input type="checkbox"/> Low literacy or Edu level <input type="checkbox"/> Cultural <input type="checkbox"/> Language <input type="checkbox"/> Visual, hearing, speaking <input type="checkbox"/> Religious, spiritual <input type="checkbox"/> Cognitive <input type="checkbox"/> Emotional <input type="checkbox"/> Motivation <input type="checkbox"/> Pain or fatigue <input type="checkbox"/> Other _____ Accommodation: <input type="checkbox"/> Interpreter <input type="checkbox"/> Audio <input type="checkbox"/> Visuals <input type="checkbox"/> Handouts <input type="checkbox"/> Explanations <input type="checkbox"/> Demonstrations <input type="checkbox"/> Other	Barriers to learning: check <input type="checkbox"/> No barriers <input type="checkbox"/> Low literacy or Edu level <input type="checkbox"/> Cultural <input type="checkbox"/> Language <input type="checkbox"/> Visual, hearing, speaking <input type="checkbox"/> Religious, spiritual <input type="checkbox"/> Cognitive <input type="checkbox"/> Emotional <input type="checkbox"/> Motivation <input type="checkbox"/> Pain or fatigue <input type="checkbox"/> Other _____ Accommodation: <input type="checkbox"/> Interpreter <input type="checkbox"/> Audio <input type="checkbox"/> Visuals <input type="checkbox"/> Handouts <input type="checkbox"/> Explanations <input type="checkbox"/> Demonstrations <input type="checkbox"/> Other
Learning Preferences: <input type="checkbox"/> Demonstration <input type="checkbox"/> Written handouts <input type="checkbox"/> Verbal or audio <input type="checkbox"/> Video or TV <input type="checkbox"/> Hands on <input type="checkbox"/> Other _____	Learning Preferences: <input type="checkbox"/> Demonstration <input type="checkbox"/> Written handouts <input type="checkbox"/> Verbal or audio <input type="checkbox"/> Video or TV <input type="checkbox"/> Hands on <input type="checkbox"/> Other _____	Learning Preferences: <input type="checkbox"/> Demonstration <input type="checkbox"/> Written handouts <input type="checkbox"/> Verbal or audio <input type="checkbox"/> Video or TV <input type="checkbox"/> Hands on <input type="checkbox"/> Other _____	Learning Preferences: <input type="checkbox"/> Demonstration <input type="checkbox"/> Written handouts <input type="checkbox"/> Verbal or audio <input type="checkbox"/> Video or TV <input type="checkbox"/> Hands on <input type="checkbox"/> Other _____
Signature _____ Date _____	Signature _____ Date _____	Signature _____ Date _____	Signature _____ Date _____
Signature _____ Date _____	Signature _____ Date _____	Signature _____ Date _____	Signature _____ Date _____

Patient Label



pathway



Patient/Family Learner Assessment

Ongoing Interdisciplinary Patient/Family Education Documentation Form

Assessment Key ↓

Asthma

Knowledge of Plan of Care or Plan of Treatment 1. Comprehensive, 2. Good, 3. Limited, 4. None, 5. Other (explain in comments)											
Readiness to learn: 1. Asking pertinent questions, 2. Actively listening, 3. Unreceptive, 4. No interest demonstrated, 5. Distracted											
Barriers to learning: 1. No barriers, 2. Low literacy or education level present as a barrier, 3. Cultural, 4. Language, 5. Visual, hearing, speaking, 6. Religious/spiritual, 7. Cognitive, 8. Emotional, 9. Motivation, 10. Pain or fatigue, 11. Other (identify below)											
Accommodations for barriers or methods for teaching: 1. No accommodations needed, 2. Interpreter utilized, 3. Audio Visual Aids used, 4. Handouts in specific language (specify type of handout) 5. Explanation given, 6. Demonstration given, 7. Referred to class or session, 8. Other											
Learning Outcomes: 1. Indicates understanding or performs successfully, 2. Needs reinforcement, 3. Refuses teaching, 4. Unable to complete teaching (describe in comments), 5. Unable to learn materials/concepts or give return demonstration, 6. No learner available, 7. Not an issue (not applicable)											
Remember: An initial learning assessment must be completed on each learner.											Comments
Assessed Learning Needs		Date	Time	Learner	Plan of Care or Tx	Readiness to learn	Barriers	Accommodations	Learning Outcomes	License	
Immunizations											
Medications											
Nutritional Guidance											
Anticipatory Guidance (Growth and Development)											
Hygiene											
Signs of worsening respiratory distress											
MDI Administration											
Peak Flow Meter (if age appropriate)											
Asthma Care Program (Red/Yellow/Green Sheet) completed and reviewed with family by RCP											
Asthma Class											
Asthma Education											
Drug Nutrient Interaction (Prednisone) *excludes: 1) Tube feeders 2) Formula as primary nutrition											
Date _____ Signature _____ Initial _____											
Date _____ Signature _____ Initial _____						Date _____ Signature _____ Initial _____					
Date _____ Signature _____ Initial _____						Date _____ Signature _____ Initial _____					
Date _____ Signature _____ Initial _____						Date _____ Signature _____ Initial _____					

**Ongoing entries are dated, timed, and initialed for each entry.
Date, sign, and place your initial at the bottom of each page.**

Patient Label



Asthma

What is Asthma?

Asthma is a disease that affects the lungs and makes it hard to breathe. Adults and children can have asthma. With asthma three things happen:

- The walls of the airways swell making the airways smaller.
- Mucus builds up in the airways making less room for air to move in and out of the lungs.
- The muscles around the breathing tubes in the lungs get tight making the airways smaller.

How will I know if my child has Asthma?

It is possible your child may have asthma if he/she has any of the following symptoms.

- Chest tightness
- Frequent coughing
- Wheezing
- Shortness of breath
- Waking at night from coughing or difficulty breathing

How did my child get Asthma?

The causes of asthma are many. Many things in the environment can make asthma worse. Asthma tends to be a disease that runs in families (genetic cause).

What makes Asthma worse?

Having asthma means the airways are “super sensitive” and swell in response to things in the air we breathe. Some physical or emotional events can also trigger asthma. Common asthma triggers can be:

- Dust (dust mites)
- Cockroaches in the home
- Molds or mildew in the home and environment
- Allergies, colds, and other illnesses
- Strong smells or sprays in the air
- Tobacco smoke from cigarettes, pipes, cigars
- Smoke from fireplaces, camp fires, etc.
- Exercise
- Extreme weather changes
- Intense emotions or laughing

What is the treatment for Asthma?

There are many kinds of medicines for asthma. The most common medicines given to treat asthma are:

- ANTI-INFLAMMATORY** (control): Often called “control medicines,” because if taken DAILY, they will slowly decrease the swelling inside the airways and help prevent asthma symptoms in the future. Be sure to ask your child’s doctor which is your control medicine.
- BRONCHODILATOR** (rescue or quick relief medicines): Work quickly by relaxing the tightened muscles that wrap around the outside of the airways. The muscles will tighten as the airways begin to swell. Be sure to ask your child’s doctor which is your rescue medicine.



How can my doctor and I manage my child's Asthma?

- **Be sure to keep your child's doctor appointments.** Managing your child's asthma will require follow-up visits to ensure their medicines are correct and your child's asthma remains under control.
- **Have your child take his/her control medicine on a daily basis** as prescribed by your doctor. Using your control medicine on a daily basis, even when your child has no symptoms, should help keep your child's asthma under control and keep their lungs as healthy as possible.
- **Do not allow your child to run out of his/her medicines.** As soon as your child stops taking his/her control medicine their lungs usually begin to swell.
- **If the medicines do not seem to be working,** call your child's doctor right away. Even though your child may be taking his/her medicine correctly, there can be times when triggers are in the environment. Your child's medicine may need to be increased.
- **Managing asthma well will** decrease symptoms and help keep your child's airways as healthy as possible throughout their life. Daily asthma management should help eliminate trips to the emergency room.
- **Perform a pulmonary function** test on a regular basis. A pulmonary function test (PFT) is a simple, painless, breathing test. This is a test for children 5 years old and older. The information this test gives your doctor helps them decide when it's the right time to increase, decrease, or change your child's medicines.
- **Peak Flow Meter** - For children old enough to follow directions, usually 5 years or older, they can be taught to use a peak flow meter. Your child can blow into the peak flow meter each day, so their breathing ability can be measured. When your child is breathing/feeling well, they can measure their "personal best" on the peak flow meter. You will see a drop in the measurement when your child's asthma is flaring up. If you do not have a peak flow meter for your child, talk to your doctor about getting one

Asthma Action Plan

An asthma action plan from your child's primary care doctor will help you know how much and when to use the medicines. This plan is based on a traffic stoplight. (Green, Yellow, Red). Asthma action plans are based on numbers reached on a peak flow meter. If your child is too young to use a peak flow meter, his/her plan will be based on symptoms that day. If you do not have a plan for your child, ask your doctor for one. If at any time you should have a question or concern, call your child's doctor.

Green (Go) days mean your child is breathing well and has no symptoms.

- Continue using daily medicines to control asthma as ordered by your doctor.
- If your child uses a peak flow meter it should register in the top 20%.
- Talk to your doctor about knowing your green numbers.

Yellow (Caution) days mean your child is having asthma symptoms.

- Every child's symptoms are different. Common asthma symptoms may include:
 - Coughing
 - Sneezing
 - Plugged or runny nose
 - Wheezing
 - Shortness of breath
 - Tight feeling in the chest
 - Waking up at night from coughing or difficulty breathing



- His/her peak flow meter measurement is in the 80-50% range and your child should take the medicines listed for this zone.
- Talk to your child's doctor about knowing your yellow numbers.
- When your child no longer has symptoms and the peak flow numbers have returned to normal, your child has returned back to the green zone.
- If your child does not feel better or the medicines are not helping, call your child's doctor now.

Red (Stop-danger) days mean your child's medicine is not helping.

- Even though your child has been following his/her yellow plan, your child's asthma is becoming worse. Your child's peak flow reading has dropped to 50% or less.
- Use the emergency medicines as listed by your child's doctor in the red zone of your plan. Talk to your child's doctor about knowing your child's red numbers.
- See your child's doctor now or go to an Emergency Room/Urgent Care. Call 911 if needed.

What are some things I can do at home to help my child?

Identify and eliminate triggers that make asthma worse for your child. Reduce or remove triggers from your child's sleeping area first. Small changes here will greatly affect the amount of medicine your child has to take. Further eliminating triggers from your home and yard will continue to help bring your child's asthma under control. Continue eliminating triggers until you and your child's doctor are able to get your child's asthma under control.

- **Dust:**

- Dust mites live in our home in the carpet, curtains, and bedding. To help control the mites, dust surfaces, vacuum carpets, and wash linens every week if possible in hot water.
- Keep your home dusted and vacuumed every week if possible. If you cannot do this for your entire home, try to do this in your child's sleeping area.
- Stuffed animal toys also collect dust mites. Limit these toys in your child's room.
- Washable stuffed animals may help control dust.
- Be sure not to dust and vacuum when your child is in the area. Stirred up dust can trigger asthma.
- Putting dust covers on beds and pillows help limit dust mites from coming in contact with your child.

- **Cockroaches:**

- Keep all food out of bedrooms and clean up food materials in the kitchen after each meal.
- Clean your home well once a week if possible.
- Use airtight food storage bags for food in the cupboards.
- Use a garbage can with a lid.
- Remove kitchen trash to the dumpster every day.
- Repair leaks in plumbing so no water drips into sinks or under counters.
- If you use bait, boric acid or large cockroach traps, be careful that children and pets can't get to the poison, bait, or traps.
- If you use insecticide spray or bombs, air out your home after you use them.

- **Mold:**

- Run the stove fan while cooking.
- Fix leaky faucets, pipes, or other sources of water.
- Clean moldy areas with a fungicide or diluted chlorine bleach and water solution (1 part bleach to 10 parts water).



- Get rid of moldy furniture and bedding.
 - Limit house-plants and keep them away from your child's sleeping area.
 - Avoid rotting plants near the house.
 - If your house is damp, use an air conditioner or dehumidifier if possible.
 - If you are using a humidifier in your home, make sure it is not growing mold. Clean it daily.
- **Allergies:**
 - If there is a season that is worse for your child than others, such as times when there are a lot of pollens or mold spores in the air, close windows in the home and car.
 - Limit afternoon activity if possible on days when air-quality is not good.
 - Talk to your child's doctor about his/her symptoms. You may need to increase your child's control medicine during this time, as well as take allergy medicine.
 - Don't take any over-the-counter medicines unless you check with your child's doctor first.
 - If your child has problems when pollen counts are high, laundry should be dried in a dryer, and not hung outdoors.
- **Smoke, strong odors, and sprays:**
 - If possible, do not use a wood burning stove, kerosene heater, or fireplace.
 - Do not allow anyone to smoke around your child. If someone smokes, have them smoke only outside your home.
 - Do not smoke in the car with your child.
 - Do not use cleaning or other spray bottles around your child.
 - Perfumes, hairspray, candles, and air-fresheners also have strong odors and may trigger your child's asthma.
- **Exercise:**
 - Even after your child's asthma is under control, exercise may be a trigger for your child.
 - Extremes in exercise such as rough and tumble play, running too hard or other types of exercise that can cause rapid increases in breathing or cause your child to get overly tired should be monitored.
 - It may be necessary to give your child medicine 15 minutes to an hour before they exercise. Talk to your child's doctor.
 - A school note may be needed from your child's doctor so that your child can participate to his/her ability, and be able to modify activity if needed.
 - Exercise is always important for children and should be encouraged.
- **Weather changes:**
 - Or extremes in the temperature may affect your child's asthma.

When should I call my doctor?

When your child has:

- Difficulty breathing and the "rescue or quick relief" medicine is not helping
- Wheezing that becomes severe (tight)
- Increased coughing
- Nasal flaring (the openings of the nose open wide with breathing)



- Retractions (sinking of the skin between the ribs and neck area)
- Breathing that becomes faster
- Paleness to area around nose and mouth
- Shortness of breath, especially if he/she is not talking or walking as usual
- A poor appetite or ability to eat or feed has worsened
- Started acting very sick
- Difficulty waking up or is less active than usual
- Become very irritable or anxious and you are unable to calm him or her
- A fever of 100.4 degrees Fahrenheit for children two months of age or younger. Do not give Acetaminophen (Tylenol) or Ibuprofen (Pediaprofen) before calling your doctor
- A fever you are concerned about

If you cannot quickly reach your child's doctor, and your child has any of the symptoms described above take your child to the Emergency Room closest to you.

CALL 911, if your child

- **Makes a grunting noise when breathing**
 - **Passes out**
- **Turns blue or gray in color**
 - **Stops breathing**

Start CPR if needed.

References:

National Heart Lung and Blood Institute (2008). Facts about asthma. Retrieved July 30, 2008 from http://www.nhlbi.nih.gov/health/dci/Diseases/Asthma/Asthma_WhatIs.html

National Heart Lung and Blood Institute (2007). National asthma education and prevention program: guidelines for the diagnosis and management of asthma. Retrieved July 30, 2008 from <http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.pdf>



Food and Medicine Interaction/ Prednisone

From the Department of Clinical Nutrition

The medicine your child is taking, _____, is a sodium and fluid (liquid) retaining medicine. This may cause your child to be more hungry, gain weight, have facial fullness, retain fluids (edema), make the blood glucose (sugar) increase and decrease blood levels of calcium and phosphorous. Ideas for diet changes include:

1. No added salt diet (If blood pressure is high or fluid is being retained)

- Use very little salt (Sodium Chloride) when cooking and eating at the table
- Eat few of these items as they have a lot of salt
 - ◆ Fast foods
 - ◆ Frozen main dishes
 - ◆ Canned soups and vegetables
 - ◆ Chips and salty snacks

Salt substitute (Potassium Chloride) is fine unless your child's doctor tells you not to use it.

2. Limit concentrated sweets (If blood sugar is high)

Foods such as honey, brown or white sugar, syrups, jelly, jam, candy, soda and desserts may cause your child's blood glucose (sugar) to increase.

3. Increase Calcium and Phosphorous

Some foods are good sources of calcium and phosphorous like non-fat milk and yogurt, low fat cheeses and lean meats. These foods are also good sources of protein.

4. Reduce high fat foods (If weight gain is too much)

High fat foods may cause your child to gain weight if the medicine is making him/her feel hungry. Eat less of:

- Fried foods
- Chips
- Ice cream, regular cheese
- Sausage, lunch meats
- Bakery goods (doughnuts, pastries, cookies)
- Cream sauces
- Foods made with lard or butter

Your child's dietitian can give you more information on low sodium/salt and low fat foods.

Dietitian: _____ **Phone: 353-** _____

Discharge Sheet

For Hospital Use Only

Discharge sheet FAXed to PCP _____
initial/date

Dictation: 1-800-411-1001 (#963)

D/S Job #: _____

Asthma Home Care Program Management Sheet
(Red/Yellow/Green) faxed to PCP / Follow Up M.D. _____
initial/date

Patient/Family Refused

Dx: 1) Asthma 2) _____ 3) _____

Hospital Course

- Patient admitted for acute exacerbation of asthma.
- Patient treated with inhaled albuterol, inhaled steroids, and systemic steroids.
- Intensive education for patient/family done regarding use of MDI's, asthma triggers, self-monitoring using peak flows, and signs and symptoms of asthma flares.
- Oxygen required: yes no
- CXR done: yes no Results: _____
- Avoid the following environmental and other triggers as identified: _____
- Reason if no relievers used: allergy sensitivity intolerance adverse other _____
- Reason if no systemic corticosteroids used: allergy sensitivity intolerance adverse other _____

Complications during hospitalization: _____

DISCHARGE CONDITION: _____ Discharge weight: _____

Instruction to Patient

Activity: NO ONE SHOULD SMOKE NEAR THE CHILD. Avoid all other exposure to smoke (fireplace and barbeque); limit strenuous exercise until all symptoms resolve and limit travel.

Diet: Regular diet. Limit sugary foods and beverages while on prednisone.

Medications: See Medication Reconciliation Form

Always use a spacer with inhaled medications.

It is recommended that after discharge, patient receive flu vaccine from primary care physician, unless contraindicated

Review completed Asthma Home Care Program Management with primary care physician.

Monitor peak flow daily if your child is old enough to use peak flow meter.

Contact primary doctor if child's breathing becomes labored and does not quickly improve with medication.

Reference: Patient Education Sheet - Asthma Home Care Program Management

Follow-up with _____ at _____ within _____ days weeks
(Doctor / Clinic) (telephone number)

Signed: _____ M.D. _____
Signature of Parent or Guardian

Attending Physician

Attending Resident

Primary Care Physician

City

Asthma

page 1 of 2

Patient Label

0083



pathway 11/2011



Discharge Instructions

ASTHMA HOME CARE PROGRAM MANAGEMENT



Asthma Medicine Plan

Name: _____

RCP to complete prior to discharge
(Review with patient/family the significance of the color zones)

You can use the colors of a traffic light to learn about your asthma medicines.

1. **Green** means **Go**.
2. **Yellow** means **Caution**.
Use quick relief medicine.
3. **Red** means **Stop**.
Get help from a doctor.

Attending Physician to complete

1. Green - Go

- Breathing is good
- No cough or wheeze
- Can work and play



Unable to establish baseline due to acuity of illness or patient unable to perform (i.e. too young)

Peak Flow Number

_____ to _____

Use preventive/controller medicine, **EVEN WHEN CHILD IS DOING WELL**

Medicine	How much to take	When to take it
Inhaled Steroids:		
Pulmicort	___ puffs	___ times every day
Flovent	___ puffs	___ times every day
Qvar	___ puffs	___ times every day
_____	___ puffs	___ times every day
Other:		
Singulair	___ tablets	Once a day at: _____

20 minutes before sports, use this medicine:

Albuterol _____ puffs

2. Yellow - Caution



Cough

Wheeze



Tight chest

Wake up at night

Peak Flow Number

_____ to _____

Take quick-relief medicine to keep an asthma attack from getting bad (relievers), in addition to daily preventive/controller medications

Medicine	How much to take	When to take it
Albuterol	___ puffs	When needed every ___ hours

Other instructions:

3. Red - Stop - Danger

- Medicine is not helping
- Breathing is hard and fast
- Nose opens wide
- Can't walk
- Ribs show
- Can't talk well

Peak Flow Number

_____ to _____

Get help from a doctor NOW! If you cannot contact your doctor, go to the ER. Take these medicines until you talk with the doctor.

Medicine:	How much to take	When to take it
Albuterol	___ puffs	Every 20 minutes x 3
Continue Other Medications (including preventive/controller medications):		

Other Instructions:
