

RESULTS OF AN ASTHMA EDUCATION PROGRAM FOR PEDIATRIC IN-PATIENTS

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Introduction

Asthma is the most common chronic childhood disease and the cause of more than 10,000 hospitalizations in Georgia in 2006. The pediatric asthma discharge rate at Tift Regional Medical Center (TRMC) for 2006 was more than double the rate of surrounding counties. According to the NAEPP Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma (EPR-3 Summary Report 2007) education is one of the four components of care needed to achieve and maintain asthma control.

To increase the asthma education received by parents and caregivers of children hospitalized with the diagnosis of asthma or with a history of asthma and to achieve and maintain asthma control, TRMC initiated an Asthma Education Program for pediatric in-patients in June 2007. To accomplish this we have adopted a pre-packaged asthma education packet from Monaghan Medical, Doc Monaghan. In addition, a folder of educational material from pharmaceutical companies and asthma organizations is prepared for each patient according to age and language spoken. We developed an Asthma Home Management Plan of Care that includes written instructions for both daily management (long-term control medication, if appropriate, and environmental control measures) and actions to manage worsening asthma (what signs, symptoms, and PEF measurements (if used) indicate worsening asthma; what medications to take in response; what signs and symptoms indicate the need for immediate medical care). This plan should be shared with other family members or day-care facilities.



Method

Each patient admitted with a diagnosis of asthma or a history of asthma receives Asthma Education while hospitalized. Along with the Doc Monaghan package and the TRMC Asthma Folder, each patient and family is visited daily by a Certified Asthma Educator or Respiratory Therapist for instruction and to answer any questions.

Thanks to the generosity of TRMC employees through donations to The 30-Minute Club, each patient receives free dust mite covers for their mattress and pillow. Allergens produced by dust mites are among the most common triggers of asthma. Dust mites are prevalent in South Georgia due to our high humidity.

Each patient who is of school age is also given a School Asthma Action Plan developed by Breathe Georgia which lists the quick-relief medication that the child may use while at school. This is given to the school nurse along with the medication.

Asthma Home Management Plan of Care

Before Exercise: _____ 15 - 30 minutes before exercise
Peak Flow Meter Personal Best = _____ L/min

GREEN ZONE: Doing Well	Use these CONTROL medicines every day		
• Breathing is good • No cough or wheeze • Can work and play • Sleeps at night	Medicine	Dose	Frequency
Peak Flow _____			

YELLOW ZONE: Getting worse	Continue with Control Medication and ADD these QUICK RELIEF medicines for 1 - 7 days then go back to the Green Zone		
• First sign of a cold • Cough worse at night • Coughing at night • Short of breath • Unable to do usual activities • Exposure to known trigger	Medicine	Dose	Frequency
Peak Flow _____			

RED ZONE: Medical Alert	Give one treatment, if not better repeat in 20 minutes; if still not better go to ER or call your doctor		
• Very short of breath • Cannot do usual activities • Nose starts with • Rite nose • Lips and/or fingernails blue • Trouble walking and talking	Medicine	Dose	Frequency
Peak Flow less than _____			

Avoid My Personal Asthma Triggers

<input type="checkbox"/> Pollen	<input type="checkbox"/> Mold	<input type="checkbox"/> Dust Mites	<input type="checkbox"/> Exercise
<input type="checkbox"/> Dogs / Cats	<input type="checkbox"/> Fleas	<input type="checkbox"/> Cold air	<input type="checkbox"/> Smoke
<input type="checkbox"/> Cockroaches	<input type="checkbox"/> Other		

If asthma condition worsens after discharge, follow the written management plan above and call your doctor. If not better and unable to reach your doctor, go to the nearest emergency department or call 9-1-1.

Follow-up appointment _____ of _____ with _____ Physician
Date _____ Time _____

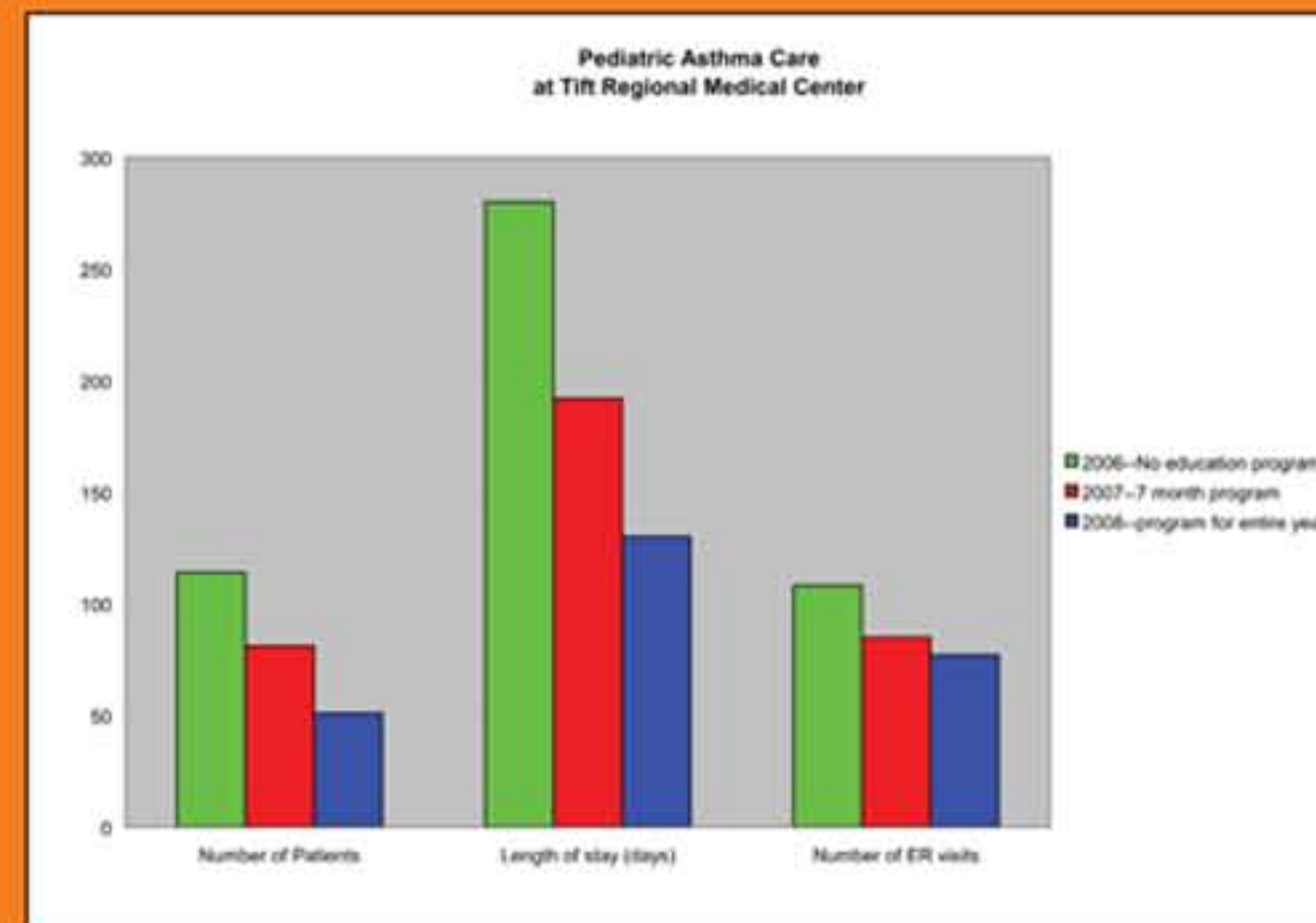
Copy Received: _____ Signature / Relationship _____ Date _____



Results

During 2006 when there was no Asthma Education Program, there were 114 patients age 2-17 years old with a primary or secondary diagnosis of asthma discharged from TRMC with a total of 280 days of hospitalization. In 2007 the number of discharges was 81 (a 29% decrease) and 192 days (37.1% reduction) of hospitalization. In 2008 the number of discharges was 51 (an additional 37.1% decrease from the previous year) with 130 days (an additional 32% reduction) of hospitalization. In the two year period the number of discharges decreased by 55.3% and the number of hospital days was reduced by 54%. A positive effect was also achieved in ER visits. During this same time period, ER asthma visits decreased by approximately 30%.

At TRMC we were successful in reducing the frequency and number of hospital days related to asthma by offering an aggressive educational program within the hospital setting for pediatric patients and families. By improving asthma care, we also improved the quality of life for asthmatic children living in South Georgia.



School Asthma Action Plan

Student Name: _____ DOB: _____ Date form completed: _____
School: _____ Teacher: _____

For exercise: Absent MCI (Yellows) or Presently 2 - 4 puffs with spacer 15-30 minutes before exercise

Immediate action is required when the above named student exhibits any of the following signs of an asthma attack:
Repetitive Cough, Shortness of breath, Chest tightness, Wheezing, Retractions

Steps to take during an asthma flare:
1. Give emergency relief medications as listed below:

Quick Relief Medication	Dose	Frequency
Albuterol MDI - Ventolin or Proventil	2 - 4 puffs with spacer	every 2-4 hours for cough
Albuterol Neb		
Salmeterol MDI		
Mixed MDI	2 - 4 puffs with spacer	every 2-4 hours for cough

2. Reassess in 15 - 30 minutes and re-evaluate the child according to the following presentation:

	Cough	Respiratory Rate	Accessory muscle use or retractions	Work of breathing or shortness of breath
Normal	• None to minimal	Normal Rate 2-4 yrs < 22 5-6 yrs < 28 7-14 yrs < 23 15-17 yrs < 22	• None	• Normal • Easily speaks in sentences
Asthma symptoms continue	• very frequent to constant	• normal for age	• Present	• Speaks in short sentences, or only in words

3. If the child is:
• Normal -- the child may return to the classroom
• Continue with asthma symptoms -- continue with the medication listed in number 1 above every 15-30 minutes until EMS arrives

4. Activate EMS (call 911) if the student has ANY of the following symptoms:
• Lips or fingernails are blue or grey
• The student is too short of breath to walk, talk, or eat normally
• The student gets no relief within 15-30 minutes of quick relief medication OR the child has any of the following signs:
• Persistent clammy and cool, pulling in with breathing
• Child is vomiting
• Child is struggling to breathe
• Child's asthma symptoms continue as outlined in the table above

I certify that this child has a medical history of asthma and has been trained in the use of the listed medication, and is judged by me to be _____ capable of carrying and self-administering the listed medication(s).
TIFT capable of carrying and self-administering the listed medication(s).
The child should notify the school staff if one dose of the asthma medication fails to relieve asthma symptoms for at least 7 hours.

Medication Provider Name: _____ Medication Provider Signature: _____
Medication Provider Address: _____ Medication Provider Title: _____

Revised by School Nurse: _____ Date: _____

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