



Practical Tips on How to Make an Asthma-Healthy School: Disease Management and Educational Resources

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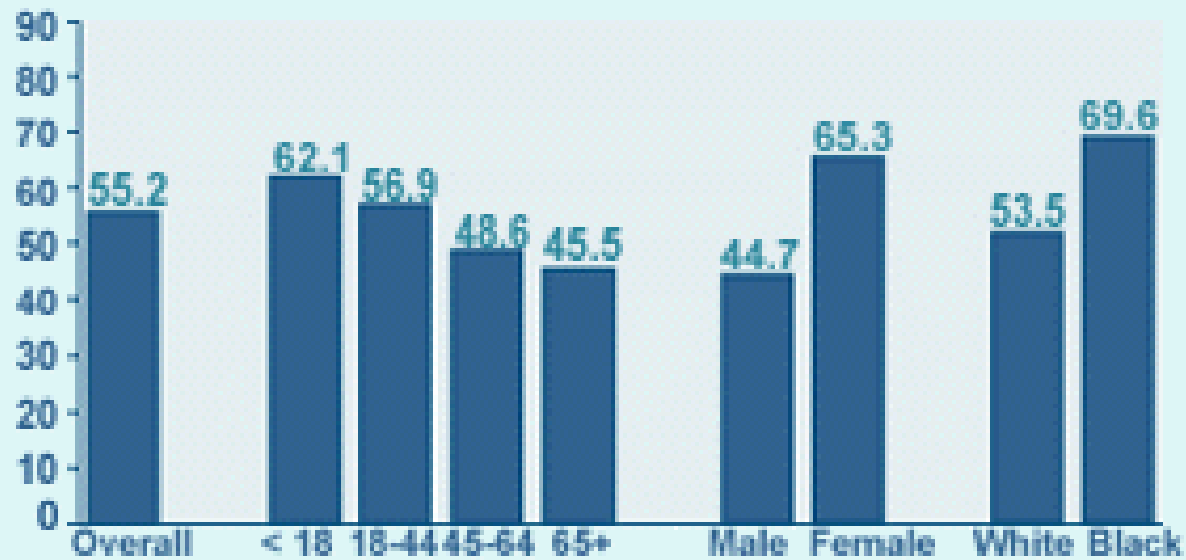
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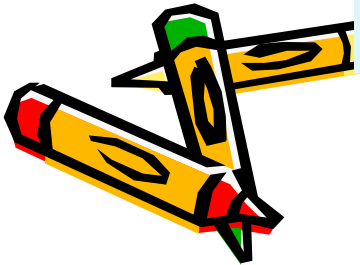
Which students are most affected by asthma?



Rate per 1,000 population



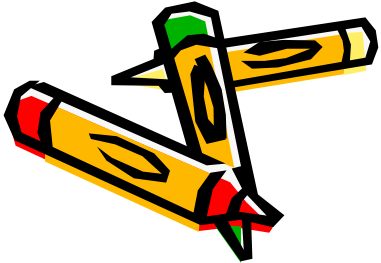
In 1996, the prevalence of self-reported asthma was 55.2 per 1,000 persons. The prevalence was higher among children than adults and higher among blacks than whites.



NHLBI Goals of Therapy: *Children and Asthma in America Survey*

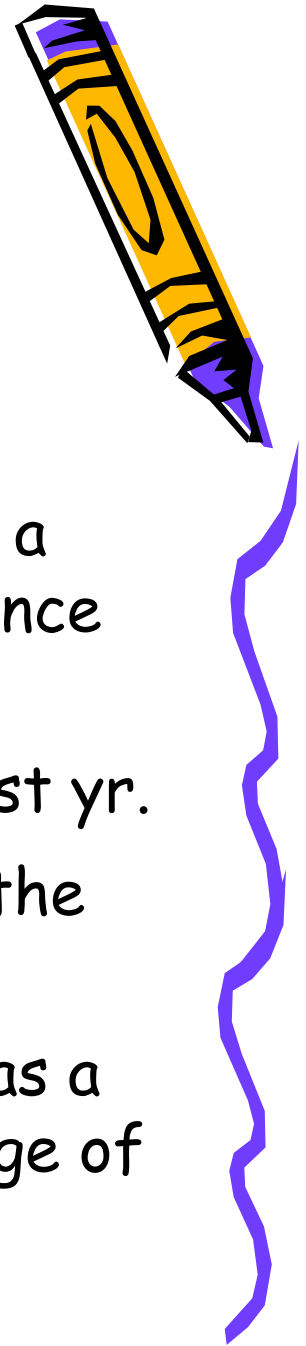


- Conducted from February to May 2004
- Sample of 41,433 households with a child 4-18 years of age with current asthma
- Telephone interview with parent/caregiver
- Most children do not have their asthma under controlwe are falling short of our treatment guidelines!



Survey Results

- 2/3 of children (67%) experienced asthma symptoms during the day, during the night, or during exercise
- Nearly one in five children (19%) experienced daytime symptoms > three times a week; almost a quarter (22%) experienced symptoms at least once a week at night
- 23% have visited the emergency room in the past yr.
- 42% reported unscheduled acute care visits in the past year because of asthma
- 54% missed school or daycare in the past year as a result of their asthma, with an average of nearly four days missed

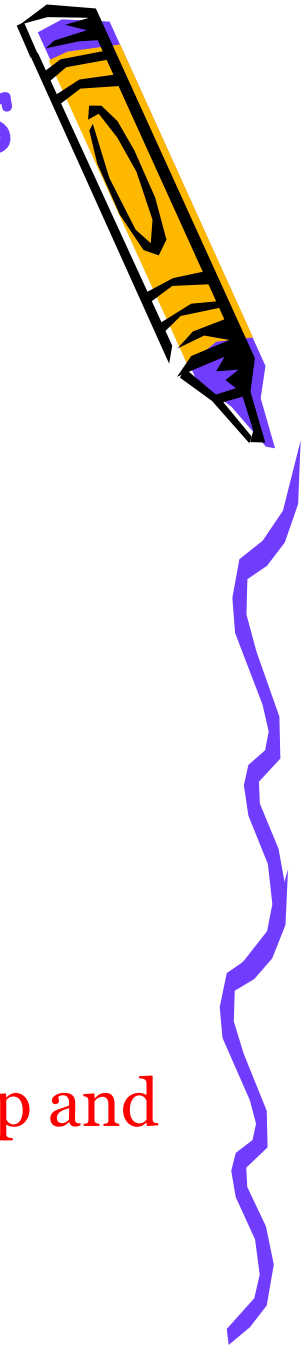


Survey Results

- 39% of parents of children with asthma missed work in the past year due to their child's condition
- 62% of children said asthma caused them to limit activities a lot or some
- Of those who used rescue medications in the past four weeks, nearly half (42%) used them three times a week to daily; nearly one in four (26%) used them daily
- 54% of children with asthma said they did not have a written Asthma Action Plan



Persistent Asthma = Steroids



I. Mild Persistent

Exacerbations > 3 x/wk, not daily

Night time symptoms > 3 x/mos

LFT's: FEV₁ $> 80\%$ predicted

II. Moderate Persistent

Exacerbations daily

Night time symptoms > 5 x/mos

LFT's: FEV₁ 60-80% predicted

III. Severe Persistent

Continuous symptoms; interferes with sleep and activities

LFT's: FEV₁ $< 60\%$ predicted





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- * Asthma hospitalizations due to poor inhaled medication adherence from the *Journal of Allergy & Clinical Immunology*: The majority of hospitalizations for asthma may be the result of people not taking their inhaled steroid medications, according to new research featured in the December 2004 *Journal of Allergy & Clinical Immunology* (JACI).
- * L. Keoki Williams, MD, MPH, and colleagues from the Henry Ford Health System in Detroit, and the Medical College of Georgia. **They examined the records of 405 asthma patients ages 18-50 to determine if poor adherence to directions for taking inhaled steroids resulted in poor asthma-outcomes.** Researchers analyzed outpatient visits, emergency room visits, and hospitalizations.





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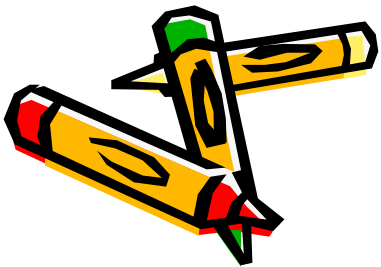
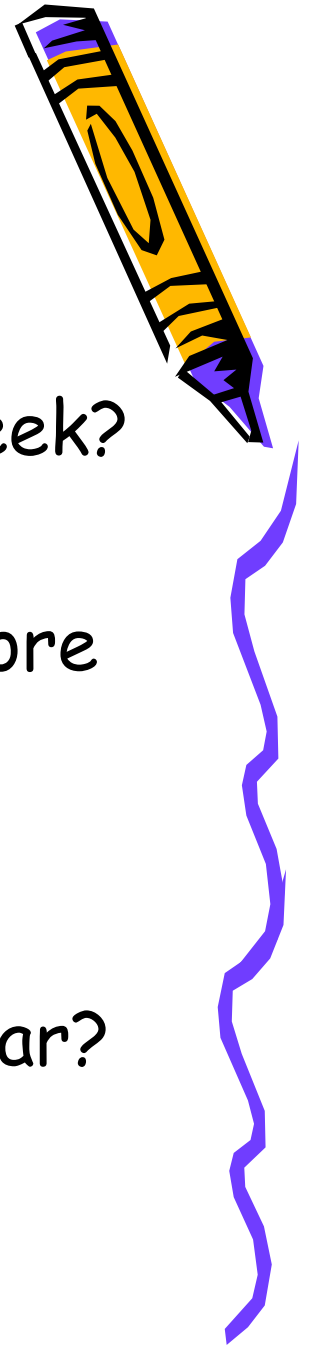


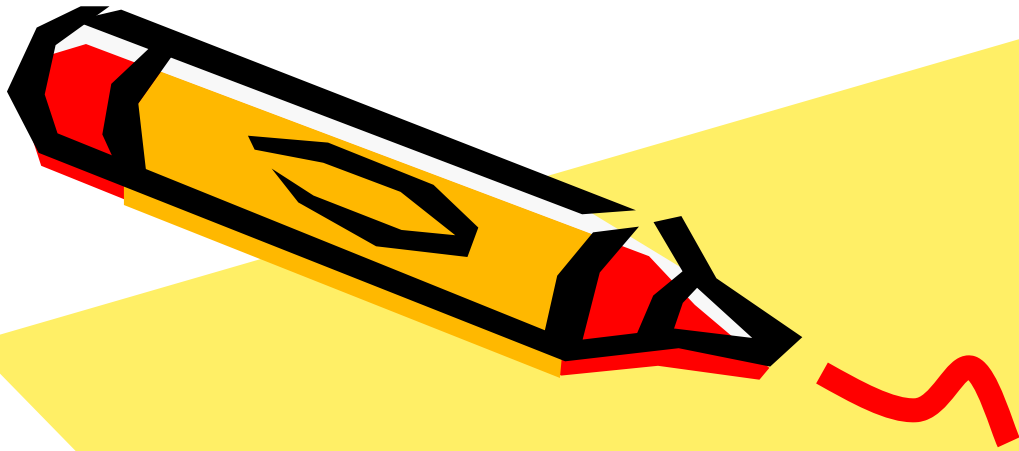
- * Overall adherence to inhaled steroids was approximately 50%.
- * Patients who missed one out of four doses of their prescribed inhaled steroid doubled their risk of being hospitalized.
- * 60% of hospitalizations could have been prevented had patients taken their inhaled medication as directed.
- * Poor medication adherence was also associated with emergency department visits and the need to use oral steroid medications, which are associated with more severe asthma.
- * Inhaled steroids have become the standard in the treatment of persistent asthma. However, adherence to the prescribed inhaled steroids is poor among adult asthma patients.



"Rules of Two"

- Does the student take their rescue medicines more than TWO times a week?
- Does the students awaken at night more than TWO times a month?
- Does the student refill their rescue medicines more than TWO times a year?



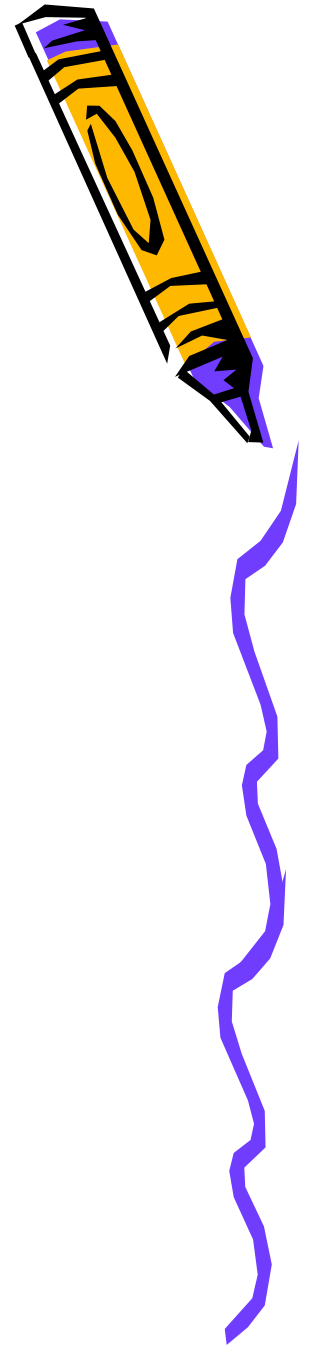


Strategies for Assisting Students with Asthma Management in School



Typical School Scenarios

1. Middle School student with asthma symptoms with inhaler at home.
2. High School student with asthma symptoms, inhaler in pocket.
3. Elementary Student with asthma, med order at school, inhaler at home.

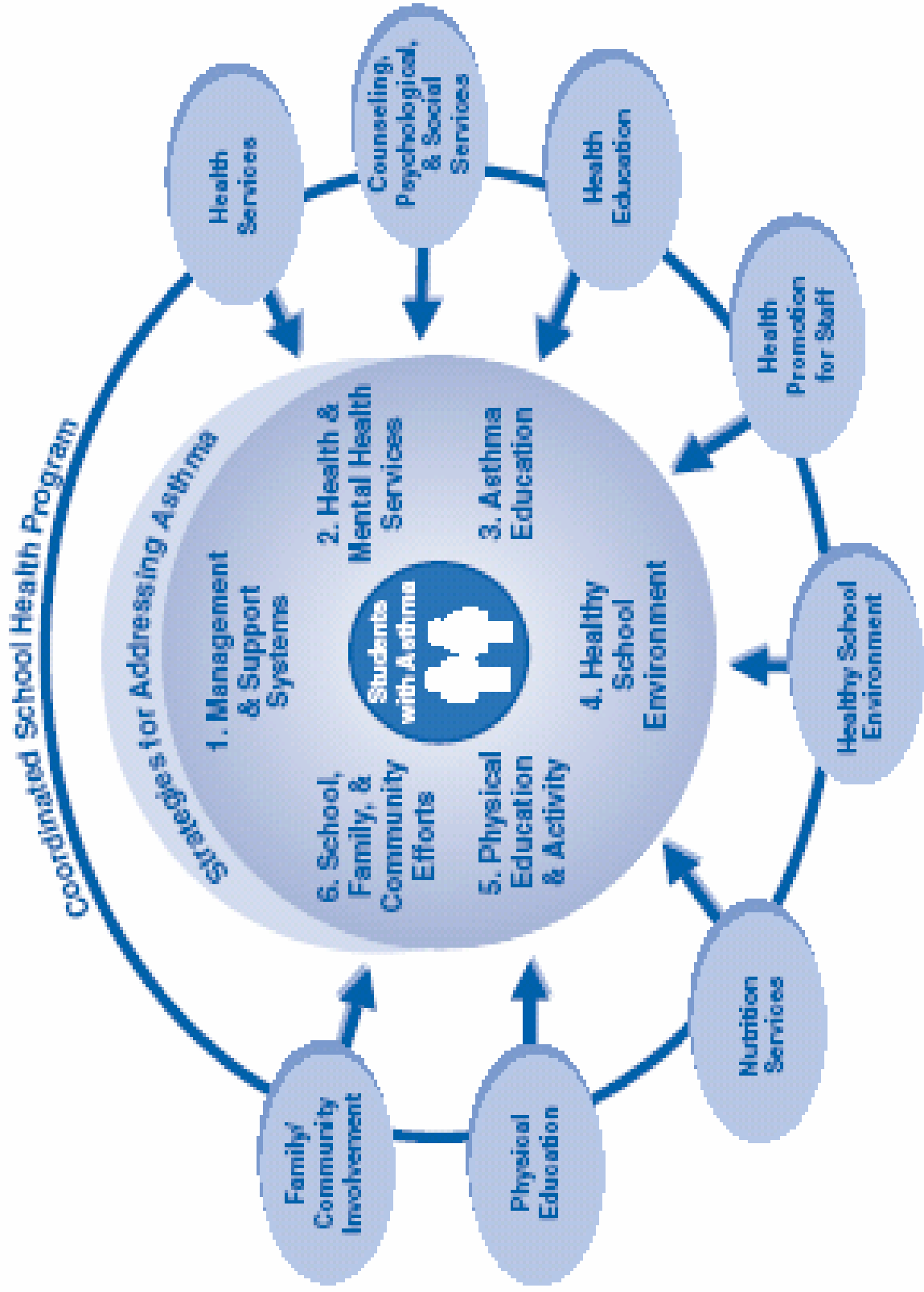


Whose Responsibility?

Schools, families and providers must work together to assure the well-being of students with asthma in the school setting.



Addressing Asthma Within a Coordinated School Health Program



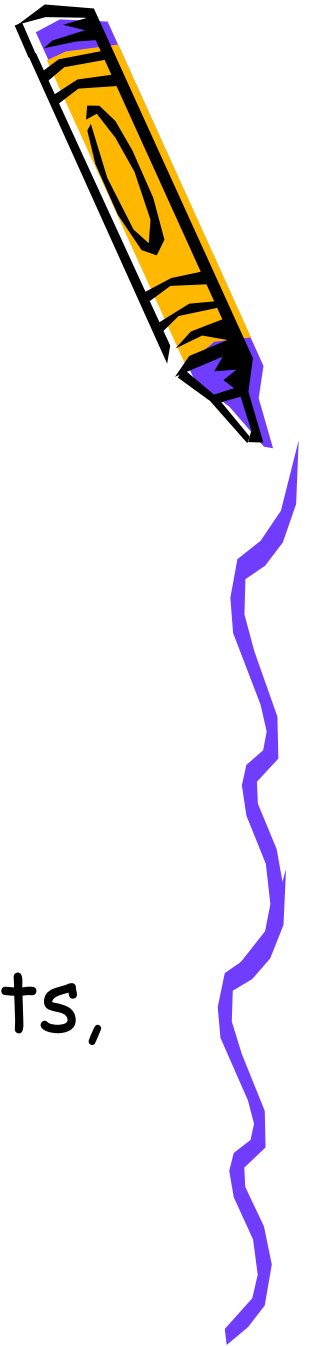
Asthma Management at School

- Written policies and procedures regarding asthma management
- Identification of Students with Asthma
- Development of Asthma Action plan
- Assessment of symptoms
- Medications
- Information for staff, students, families



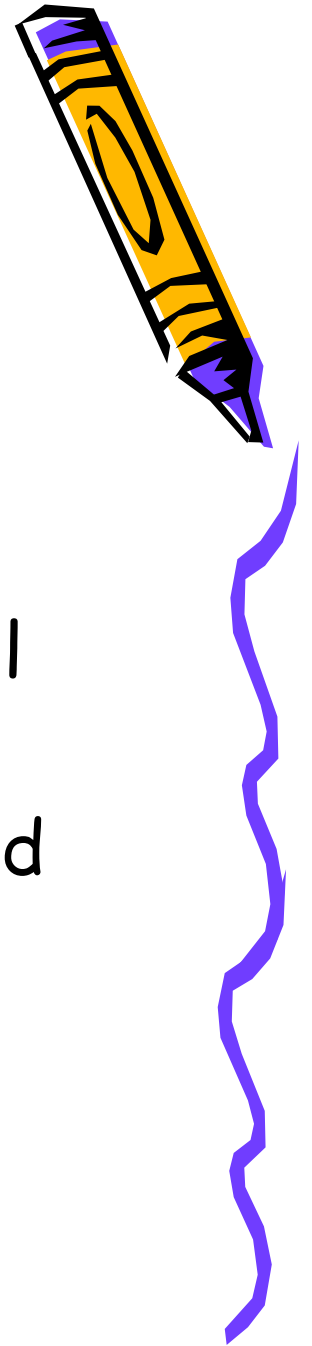
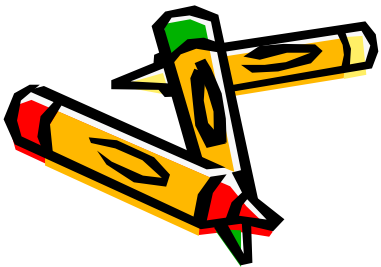
Identify Students with Diagnosed Asthma

- Physical examination reports
- Current student emergency forms
- Medical Alert lists
- Information from students, parents, staff



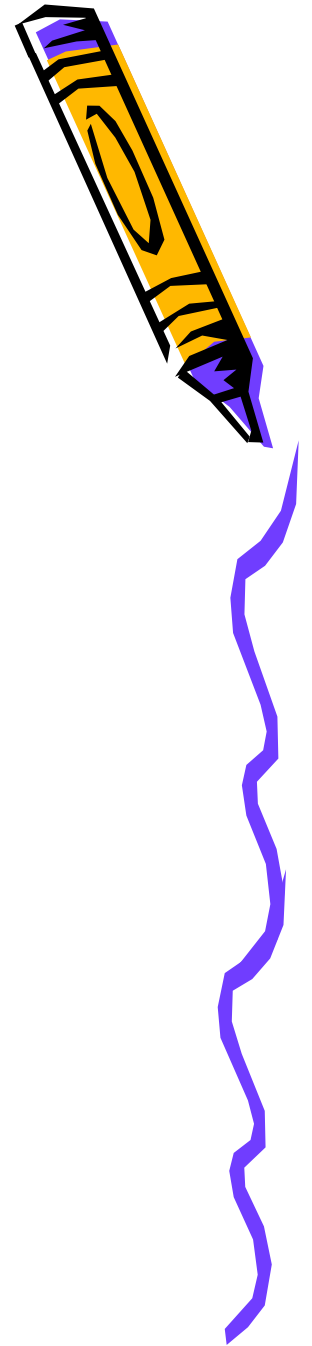
Asthma Questionnaire

- Include parent permission to:
 - share student information with school staff
 - contact healthcare provider as needed



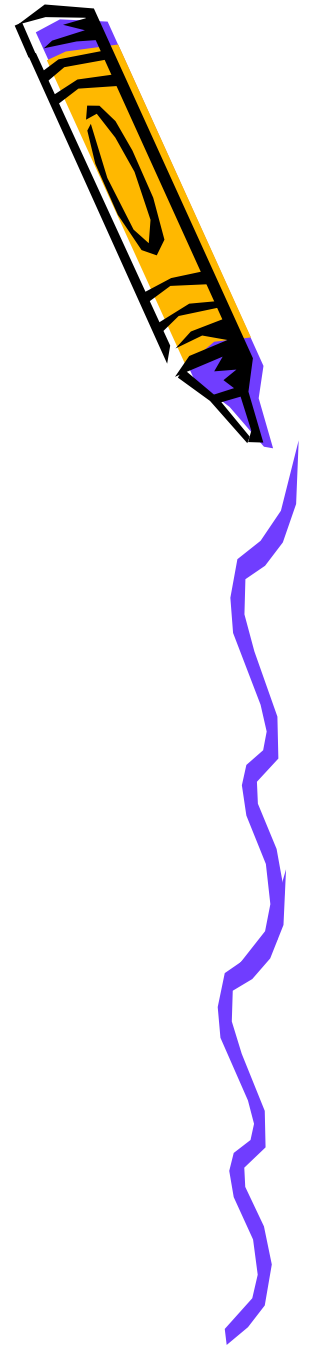
Gather Specific Information about Each Student

- Asthma questionnaire
 - Completed by parent
 - Information regarding the frequency and severity of asthma
 - Asthma triggers and allergies
 - Asthma medications
 - Need for modifications at school
 - Personal best peak flow
 - Asthma Action Plan



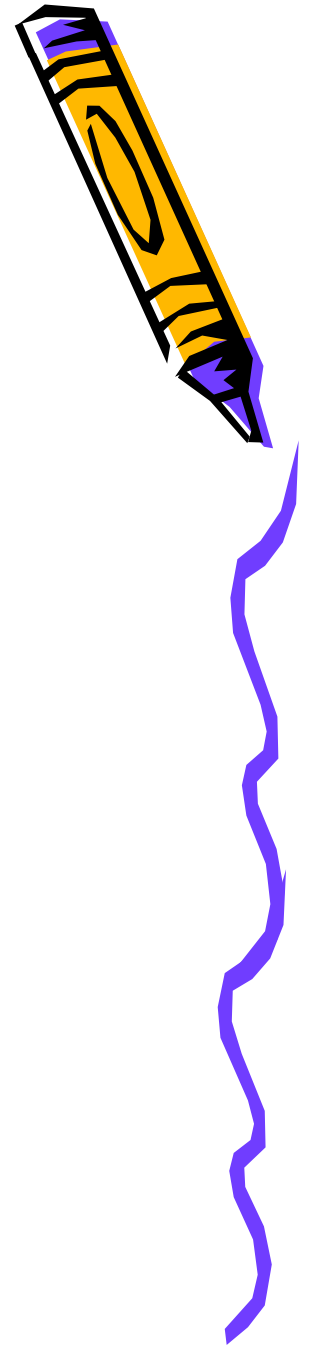
Be Proactive!

- Send letters and forms to parents and physicians
- Contact parents and physicians
- Follow-up contact with students



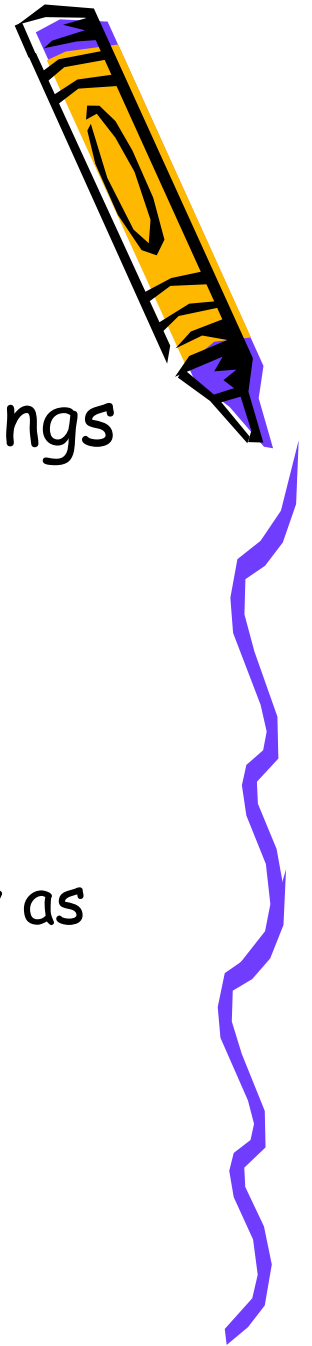
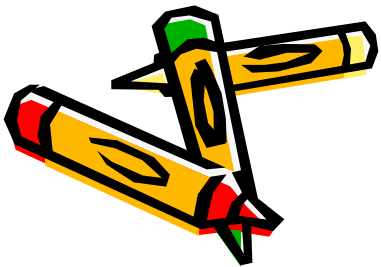
Asthma Action Plan

- Hallmark of asthma management
- Developed by PCP and provided by parents
- Individualized for students' specific needs including:
 - emergency protocol
 - medications
 - environmental triggers
 - emergency contact information

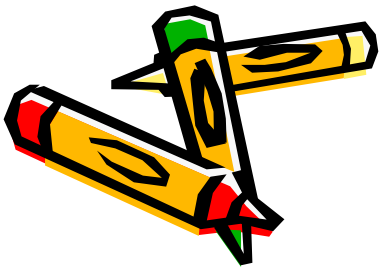


Asthma Action Plan

- Based on symptoms and peak flow readings
- Green Zone: Doing Well
 - Asymptomatic
 - Can do usual activities
 - Peak flow >80% of personal best
 - Take long-term prevention medication daily as prescribed



- **Yellow Zone: Asthma is getting worse**
 - Asthma symptoms are present
 - Can do some of usual activities
 - Peak flow 50-80% of personal best
 - Use reliever medication and reassess after 15-20 minutes
 - Monitor peak flow and repeat relief meds if necessary
 - Contact parent to assume care and seek medical advice



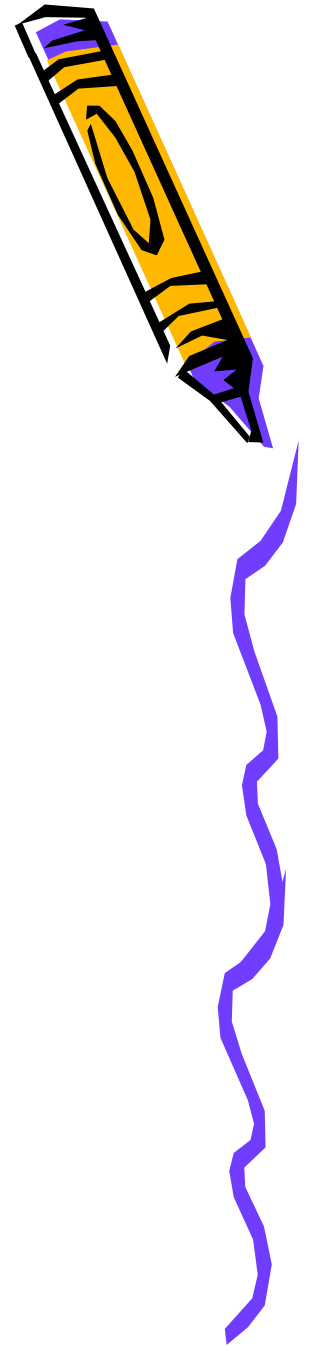
- **Red Zone: Medical Alert!**

- Significant asthma symptoms
- Cannot do usual activities
- Quick-relief medications have not helped
- Call healthcare provider or ambulance if severe distress
- Notify parent and school administrator



Resources for Asthma Action Plans

- www.schoolasthmaallergy.com
- www.aaaai.org (school nurse toolkit)
- www.nhschoolnurses.org/sharingplace
 - IHP and Forms (IHP: Asthma)



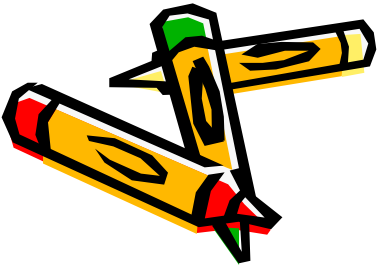
Asthma Health Care Plan

- Can be developed by school nurse
- Include peak flow monitoring including baseline personal best
- Can be health care component of IEP and 504 plan
- **SHARE WITH SCHOOL STAFF**



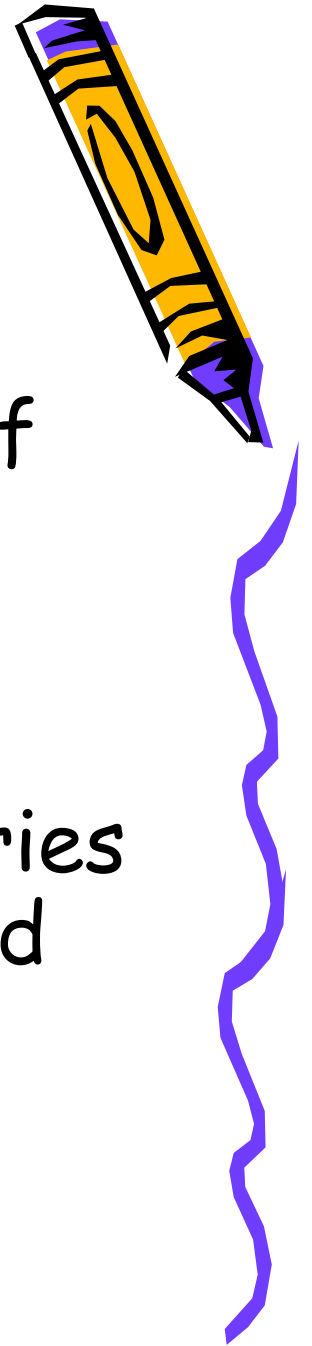
Assessment in School Health Office

- Look: pale, cyanotic, diaphoretic, frightened
- Listen:
 - What does the student say about how he feels
 - Lung sounds
- Respiratory rate
- Peak flow rate
- Pulse oxymeter



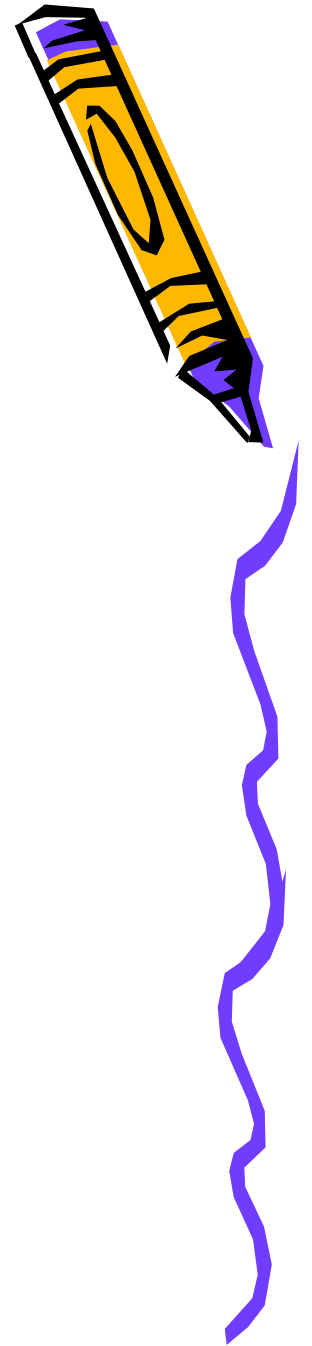
Peak Flow Monitoring

- Measures how well air moves out of lungs
- Should be monitored before and after treatment
- Personal best number based on series of readings OR can estimate based on height in inches

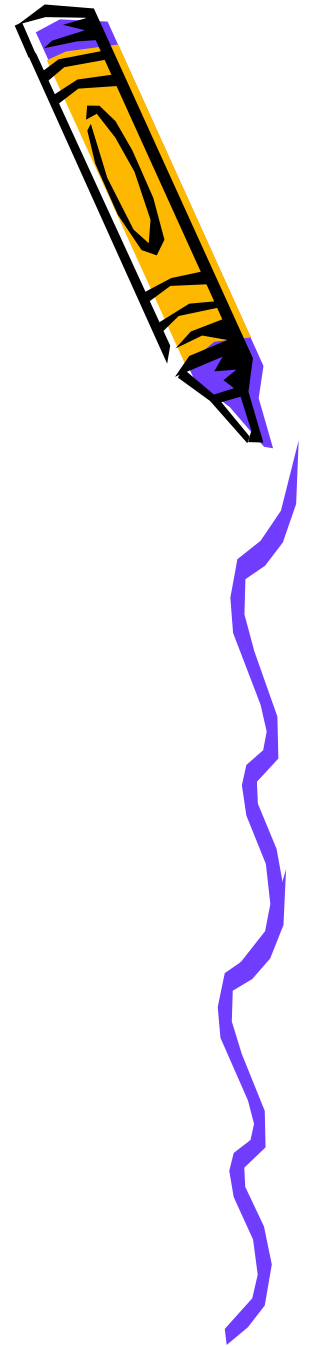
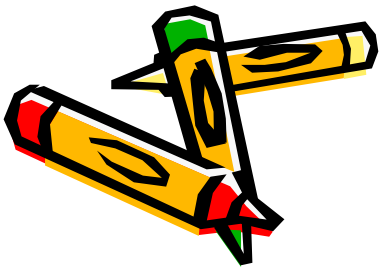


Asthma Medications

- Rescue Medications
 - Bronchodilators:
 - Albuterol nebulizer/Accuneb/Xopenex
 - Albuterol MDI
 - Ventolin MDI
 - Proventil HFA
 - Maxair MDI



- Steroids:
 - Orapred syrup, Prelone syrup
 - Prednisone tablets



Preventive Medications:

Steroids:

Flovent MDI 44mcg, 110 mcg, 220 mcg

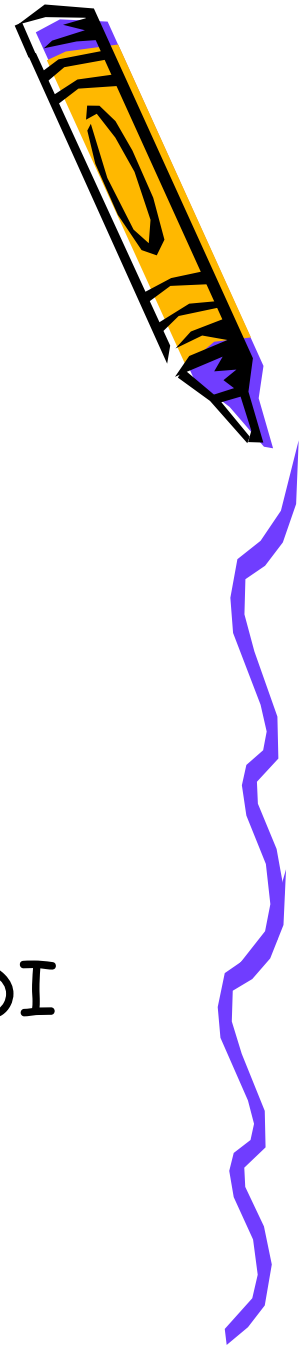
Azmacort MDI

Aerobid MDI

Pulmicort nebulizer

Intal nebulizer

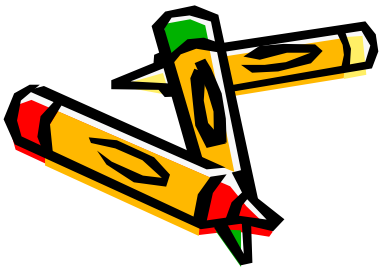
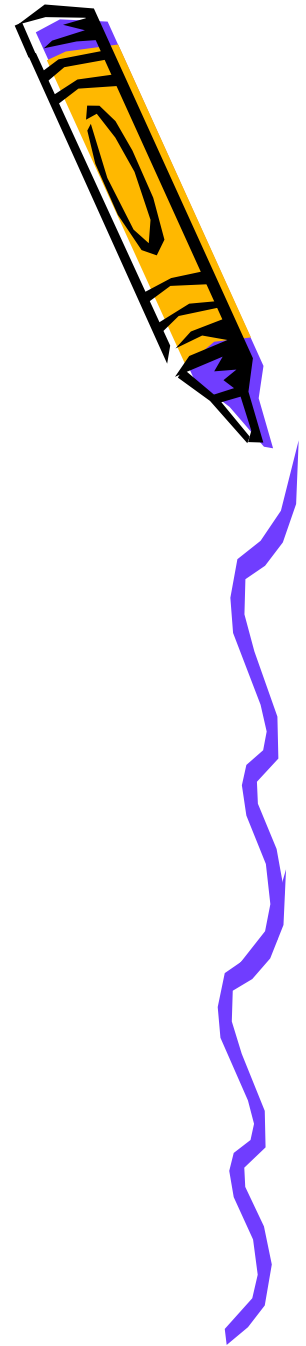
Long-Acting bronchodilator: Serevent MDI



- **Combination medications:**

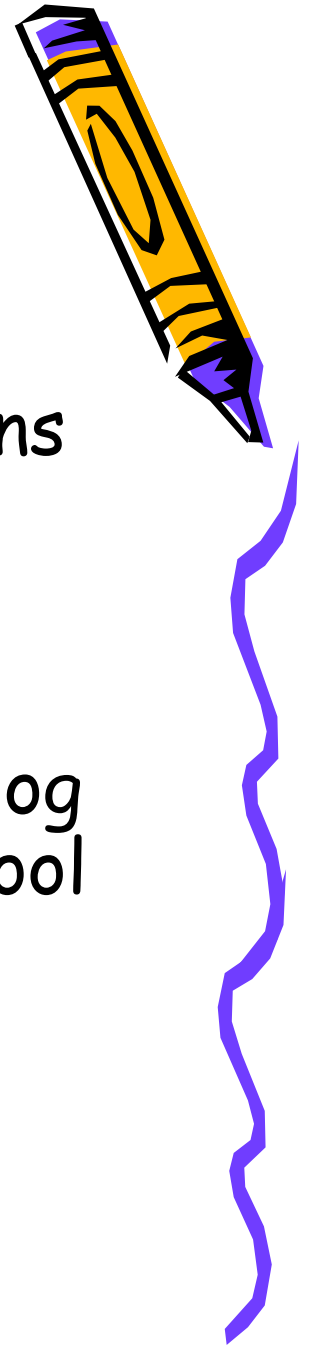
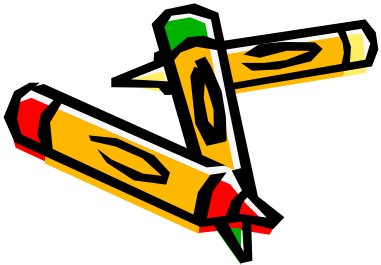
- Advair Discus

- *MDI's will be phased out by spring 2005 due to environmental concerns



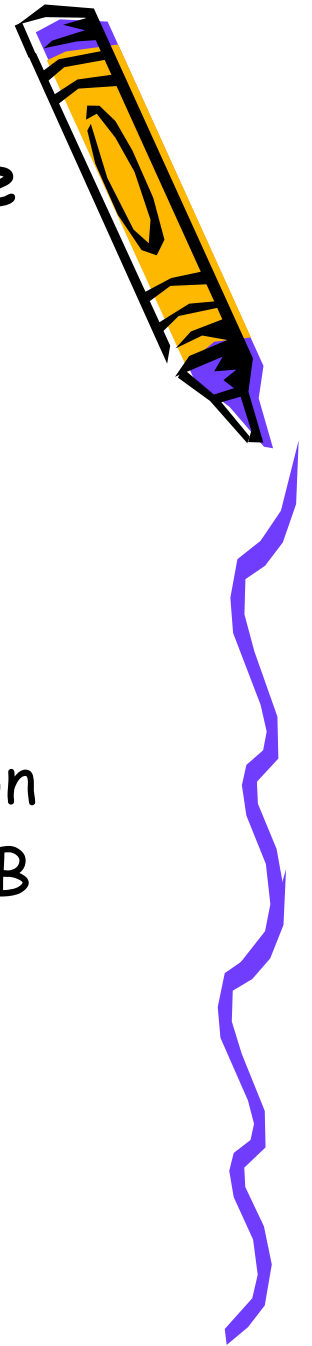
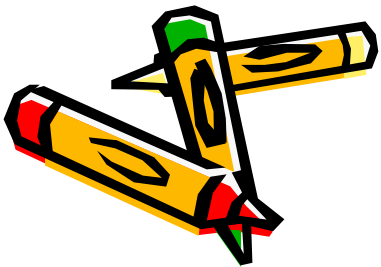
Medication strategies/policies

- Obtain medication order and instructions for administering meds
- Use or create spacers for younger students
- Keep medication logs and Note on med log where students inhaler is stored in school or during other activities
- Communicate with parents



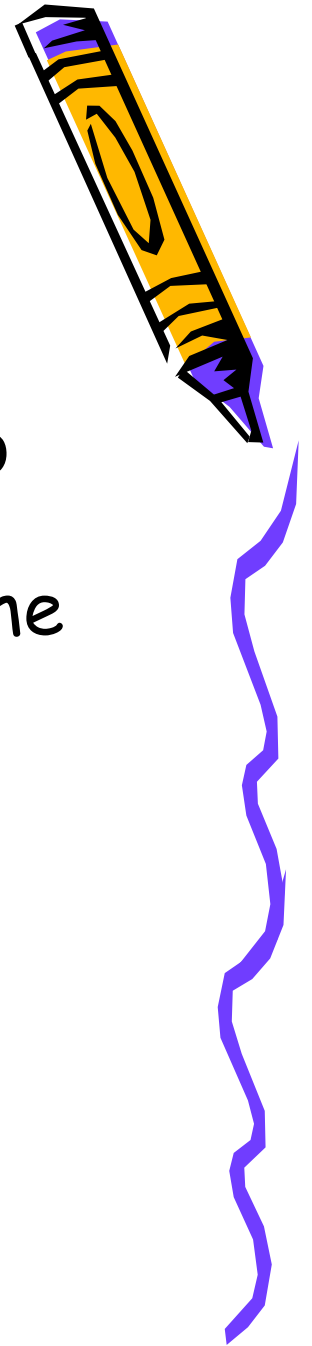
New Hampshire House Bill 57: effective 8/15/03

- Permits students with asthma to possess and self-administer asthma medications at any school-sponsored activity or program
- Requires written approval of provider and parent
- Requires specific information about medication
- www.gencourt.state.nh.us/legislation/2003/HB0057.html
- www.ed.state.nh.us/ed



Additional Strategies

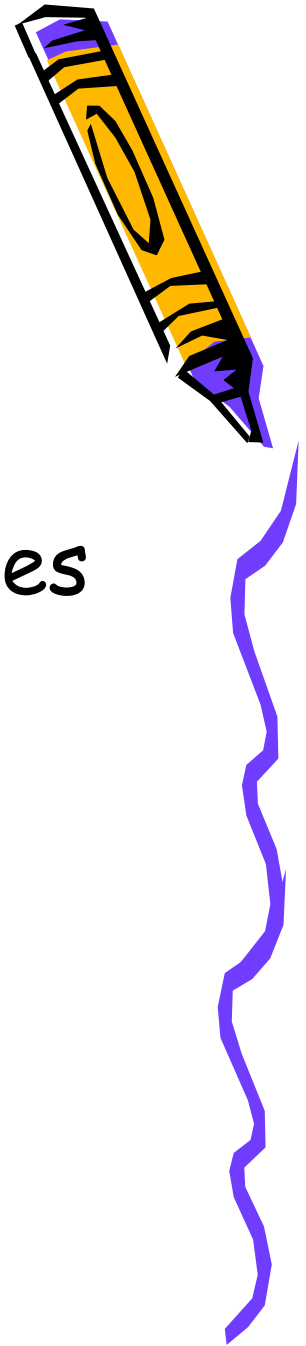
- ? Need for 504 plan or IEP
- Does the student need modifications to educational program or plan...transportation, modified P.Ed., time to make-up work
- Staff development inservice with clock hours
- Classroom educational activities with students



Additional Resources

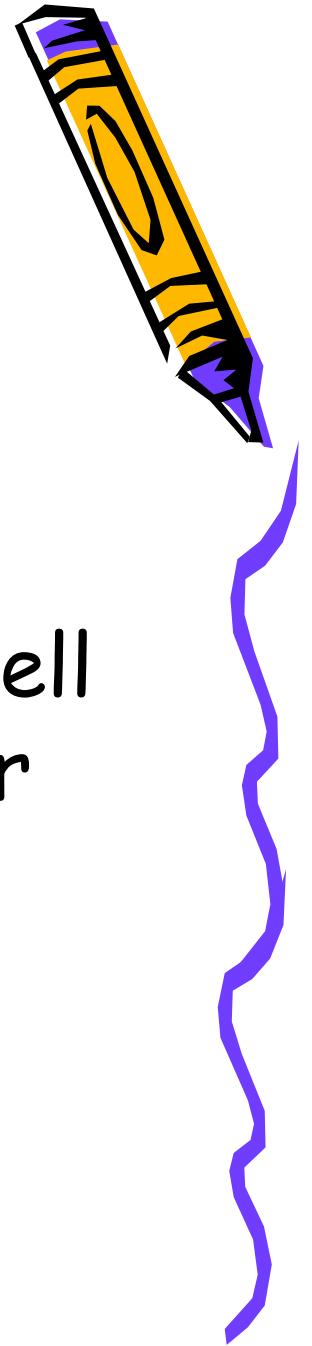
For staff:

Video - Dealing with Asthma, Diabetes
and Seizures in Schools



How Asthma Friendly is your School?

- School or district-level needs assessment
- Tool for establishing baseline as well as measuring accomplishments over time





How Asthma-Friendly Is Your School?
School Asthma Needs Assessment

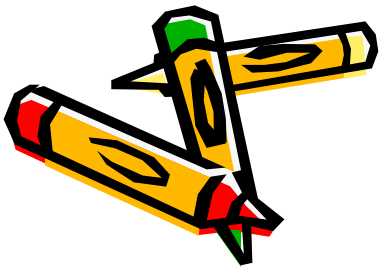
	YES	NO
1. Is your school free of tobacco smoke at all times, including during school-sponsored events?	YES	NO
2. Does your school have a written IAQ management plan? <i>(If no, continue with Question 3.)</i>	YES	NO
a. If yes, does it reduce or eliminate allergens and irritants that can make asthma worse, including:		
i. cockroaches	YES	NO
ii. dust mites	YES	NO
iii. mold	YES	NO
iv. pets with fur or feathers	YES	NO
v. strong odors or fumes (such as dry erase boards, copy machines, art and craft supplies, pesticides, paint, perfumes, chemicals)	YES	NO
3. How often is a school nurse in your school? Specify number of hours per day and/or number of days per week: _____ hours/day _____ days/week		
4. If a nurse is not in your school all day, every day, is a nurse regularly available to help the school write asthma plans and give the school guidance on asthma issues?	YES	NO
a. Is someone assigned and trained to give medications?	YES	NO
b. Does the school nurse supervise and monitor that person at least monthly?	YES	NO
5. Is there a written policy that allows children to take asthma medications at school as prescribed by their doctor and permitted by parent?	YES	NO
a. If yes: Does the written policy specify if children may carry and administer their own medications?	YES	NO
b. If no: Is the medication where the child can access it all day, every day?	YES	NO
c. If no: where is it located? _____ teacher _____ classroom _____ nurses' office _____ main office other: _____		
d. Is there a functional plan for asthma medications on field trips?	YES	NO

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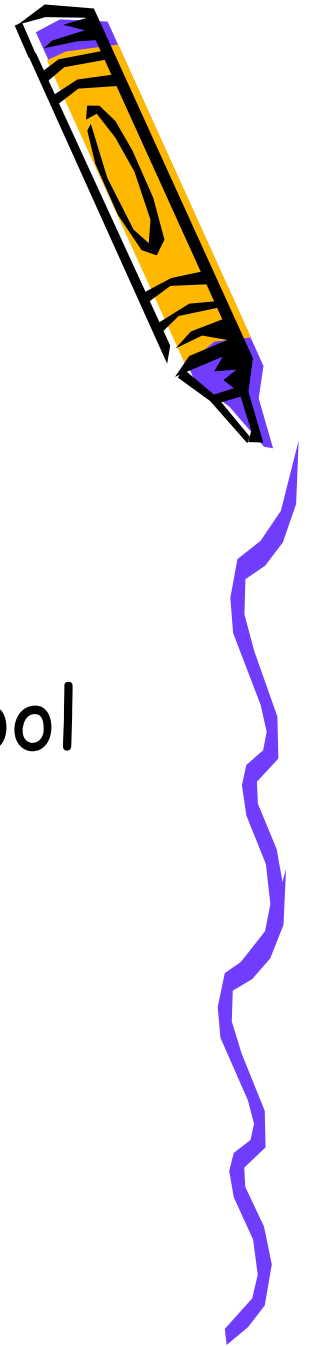
School Needs Assessment Resources

- Community toolbox - <http://ctb.ku.edu/>
- www.nhlbi.nih.gov/health/public/lung/asthma/friendly.pdf
- <http://www.epa.gov/iaq/schools/toolkit.html>



Providing a Healthy School Environment

- healthy IAQ
IAQ Tools for Schools www.epa.gov/iaq
- tobacco-free buildings during school & all school activities (including buses/bathrooms)
www.cdc.gov/nccdphp/dash/guidelines
www.lungusa.org



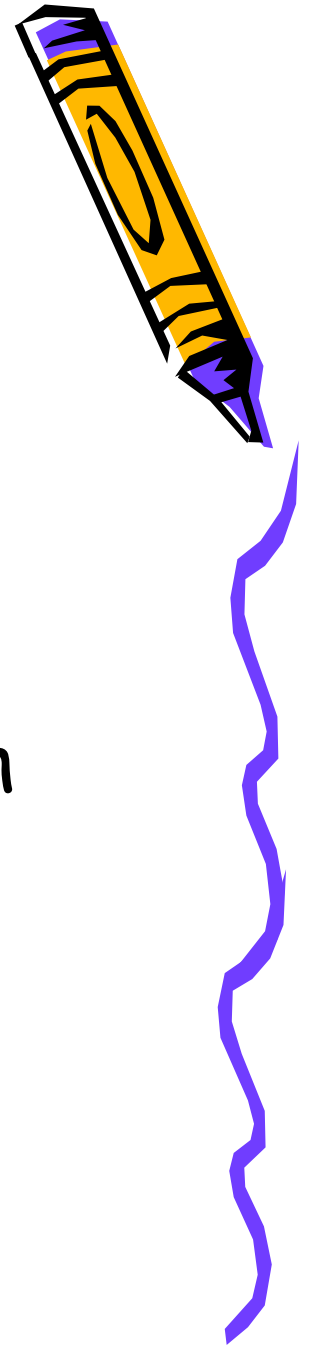
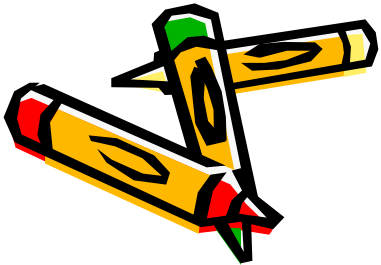
Providing a Healthy School Environment

- Integrated pest mgt. Techniques

www.epa.gov/pesticides

- Manage students' exposure on high outdoor air pollution days

<http://www.epa.gov/airnow>



Providing a Healthy School Environment

- Tobacco use cessation services for students & staff

www.nhlung.org or 1 800 83 LUNGS

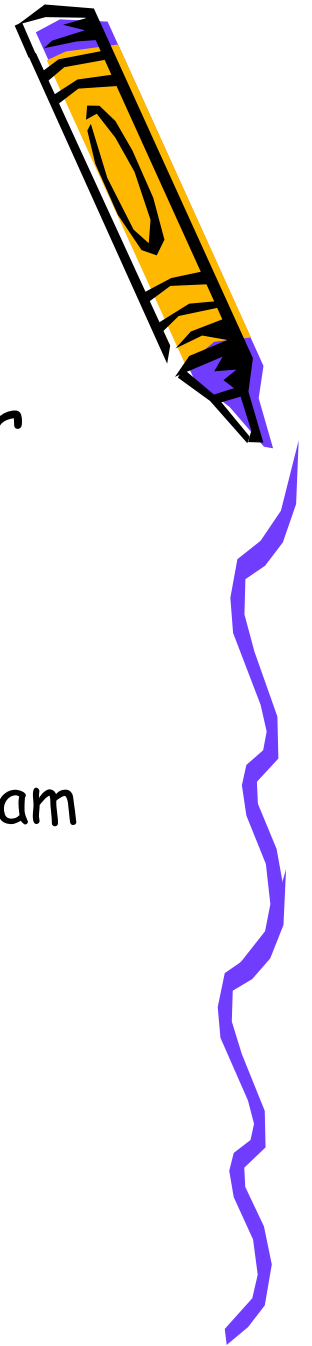
Not On Tobacco - high schools

Freedom From Smoking - group & online program

Call Center 1 800 548-8252 (any lung health question & 1:1 quit smoking assistance)

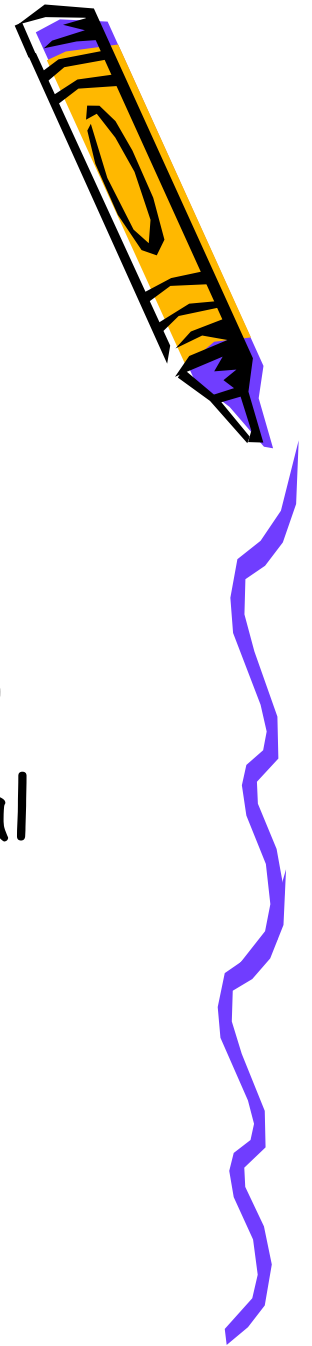
Tastefully Tobacco Free (dining guide)

www.nhlung.org



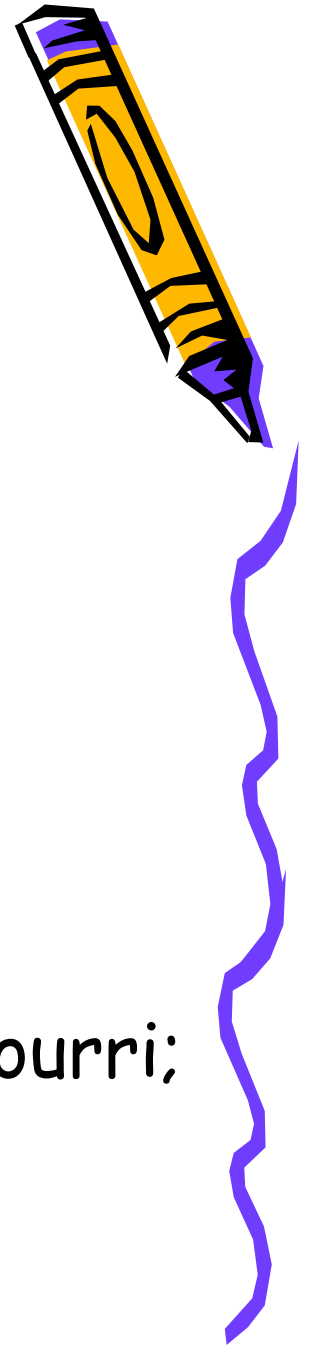
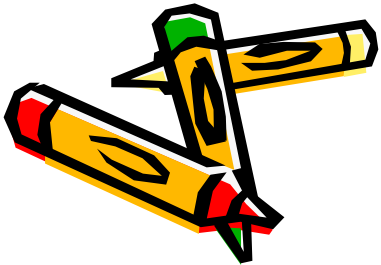
Eliminating Triggers...at School & at Home

- Resources (handout)
- "www.asthmanow.net (NH website)
 - ↳ links to local, regional & national resources



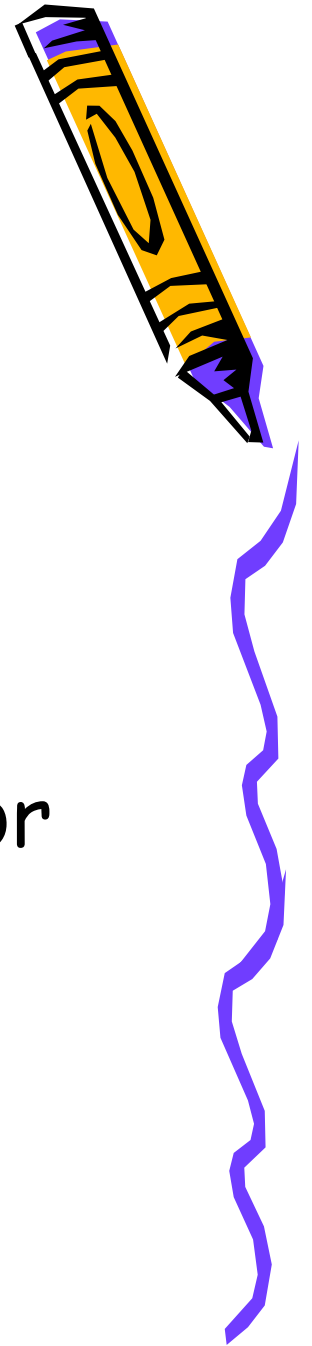
Common School Triggers

- chalk dust
- dander from furry or feathery animals
- mold & mildew
- chemical fumes (cleaning products)
- cut grass, trees, plants and pollen
- tobacco smoke, secondhand smoke
- colds, flu, bronchitis and other upper respiratory infections
- Scents/chemicals from perfumes; potpourri; candles, etc.



Tips on Triggers

- Don't have kids w/allergies clap erasers
- Wet mop floors every night
- No animals
- Keep windows closed when pollen or pollution levels are high.
- Avoid using pens, glue, and paints which emit irritating fumes



Healthy Schools ~ Resources

Healthier Schools

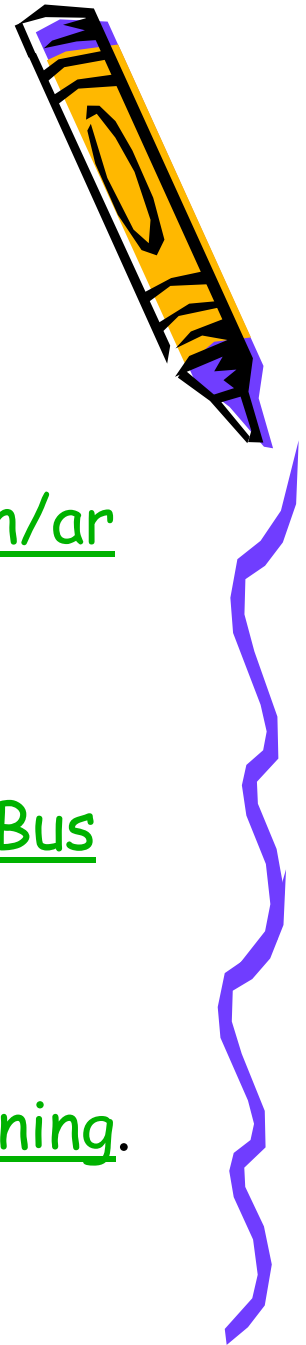
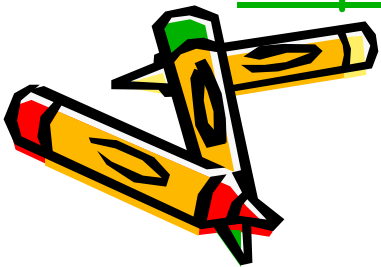
http://www.chechnet.org/healthhouse/education/articles-detail.asp?Main_ID=487

Anti-idling tool kit

<http://www.asthmaregionalcouncil.org/about/BusToolkit.htm>

Healthier cleaning products:

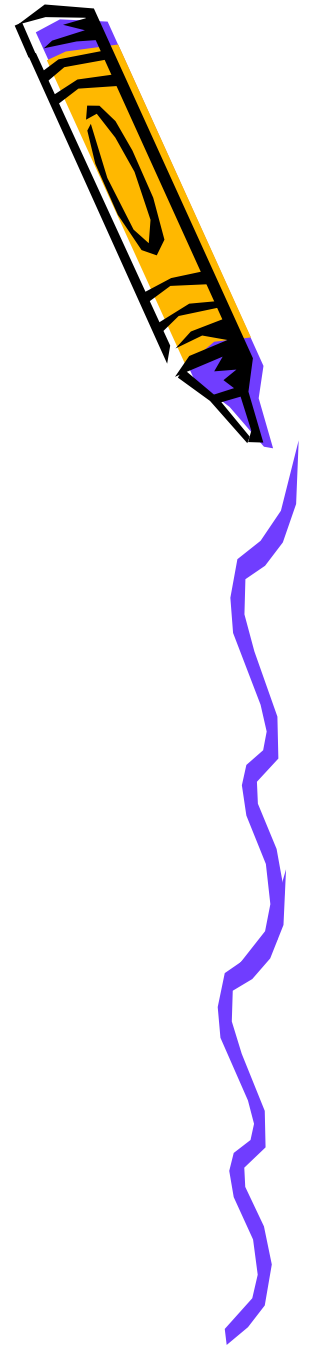
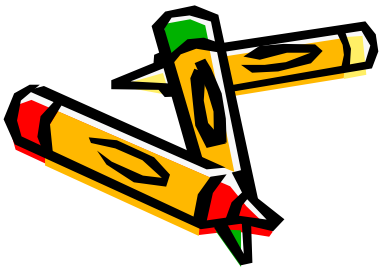
<http://www.nrdc.org/greensquad/library/cleaning.asp?room=water>



Create an Asthma-Smart School

Educate All Staff

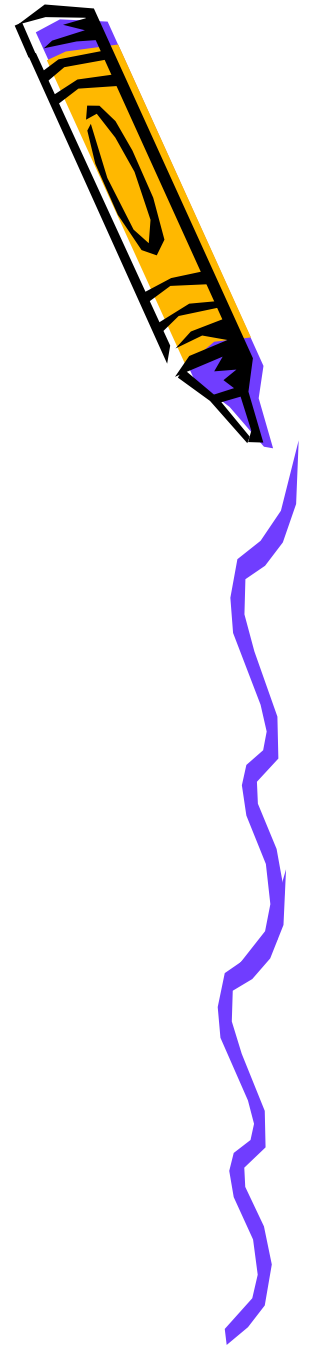
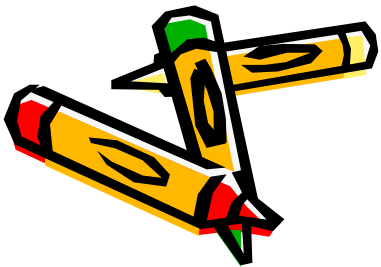
- ✓ PE teachers
- ✓ Coaches
- ✓ Bus drivers
- ✓ Administrators
- ✓ Playground supervisors
- ✓ Parent leaders



Create an Asthma-Smart School

Educate All Students

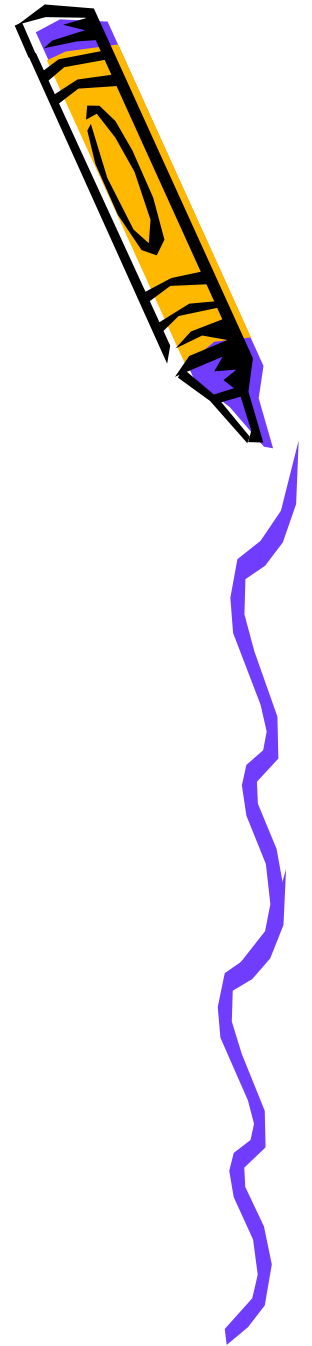
- ✓ utilize existing programs & resources
- ✓ Recruit volunteer health professionals/students
- ✓ Integrate into existing curriculum
 - chronic disease; peer education; science ~ respiratory health, etc.



Create an Asthma-Smart School

Educate All Parents

- ✓ Raise general awareness
- ✓ Build support within community
 - ↳ Tap into existing opportunities for parent interaction (PTA/PTO mtgs; newsletters; conferences)



NH Family Voices: Lending Library

These books are available **FREE**. Books are sent through the mail, with a return envelope, and are available to families, educators, and professionals. Call 1-800-852-3345, ext. 4525 or go on-line at www.nhfv.org for a complete listing.

- * *Sesame Street: A is for Asthma* (Video:English & Spanish)
- * *Winning Against Asthma* (Video for children)
- * *The Lion who had Asthma*, by Jonathan London
- * *Allie the Allergic Elephant*, by Nicole Smith
- * *You have Asthma too*, by Nancy Sander
- * *Once Upon a Breath*, by Aaron Zevy
- * *Determined to Win: Children Living with Allergies and Asthma*, by Thomas Bergman
- * *Taking Asthma to Camp*, by Kim Gosselin
- * *Taking Asthma to School*, by Kim Gosselin



Educational Resources

American Lung Association of NH

Open Airways for Schools (students)

AsthmaBusters (students & families)

Blowing Away Asthma (students; parents; staff)

Asthma & Exercise (coaches; PE staff; parents)

⇒ contact Lisa Corr-Kelly

669-2411 x104 or Lisa@nhlung.org



Educational Resources

- School slide set

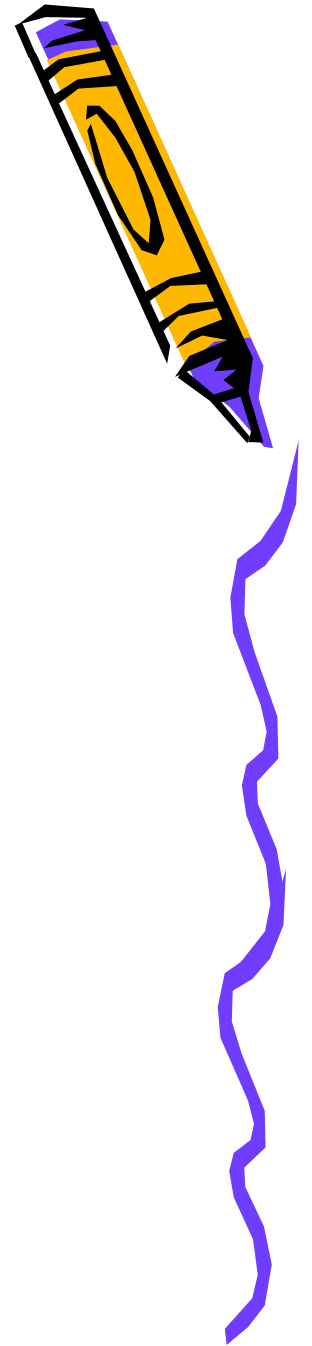
http://hin.nhlbi.nih.gov/naepp_slds/menu.htm

- Asthma & Allergy Foundation

<http://www.aafa.org/>

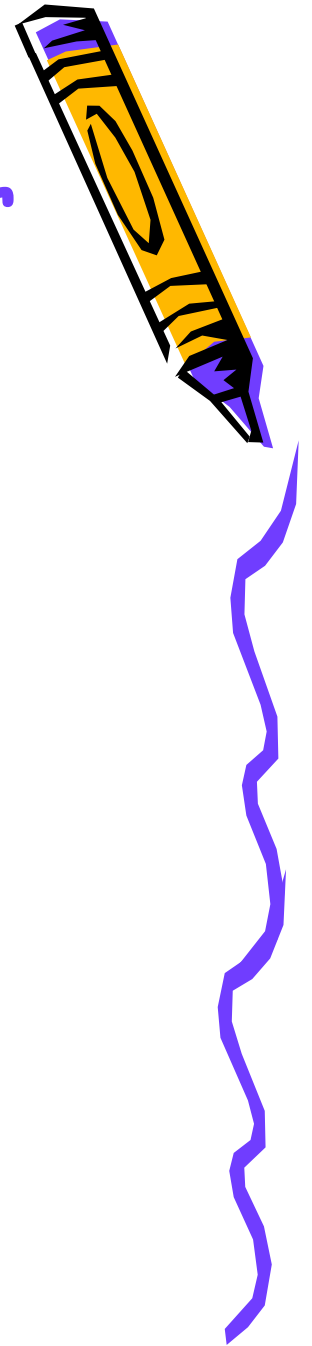
- National Association of School Nurses

<http://www.nasn.org/resources/asthma.htm>



Education and Support Services for Families and Patients

- Pollen Count 1-800-976-5536
- Multi-Lingual Asthma Educational Materials (English and Spanish) www.cdc.gov



On-line Resources

- * American Lung Association's vital Asthma & Children information
- * Breatherville, a village of learning from the Asthma and Allergy Network: Mothers of Asthmatics
- * The AAAAI's Be Stepwise About Your Asthma program: learn to work with your doctor to understand your asthma symptoms, and make sure the medication you are taking matches your symptoms.



Asthma & Allergy Foundation of America: New England Chapter

220 Boylston St.
Chestnut Hill, MA 02467

617.965.7771

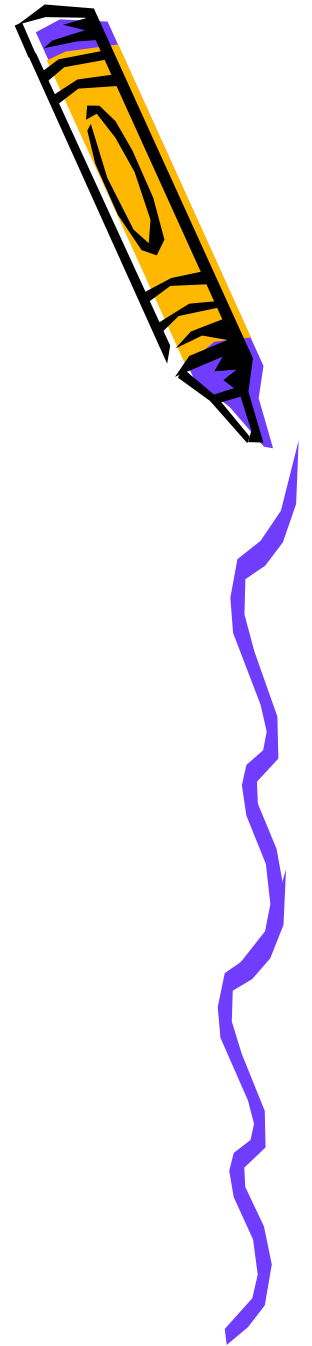
FAX 617.965.8886

877.2.ASTHMA

aafane@aol.com

www.asthmaandallergies.org

Elaine Erenrich Rosenberg, Executive Director





Schering-Plough
Cares

SchoolAsthmaAllergy.com



Asthma Awareness

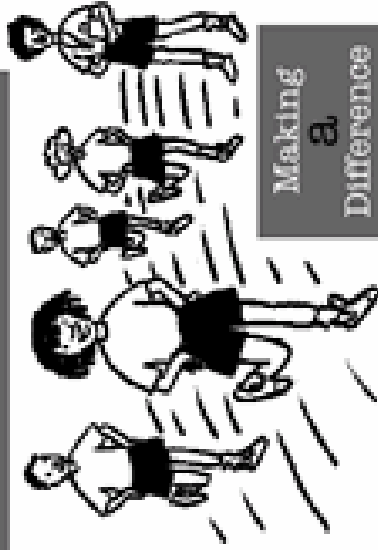
Curriculum for the
Elementary Classroom

NATIONAL INSTITUTES OF HEALTH
National Heart, Lung, and Blood Institute



asthma &

physical activity in the school



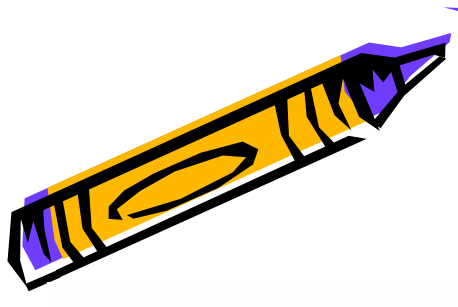
Making
&
Difference

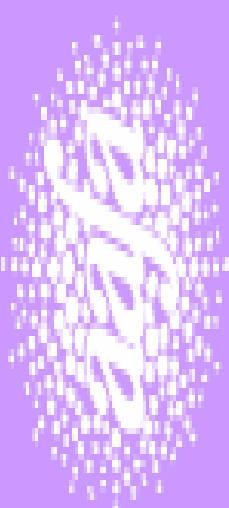
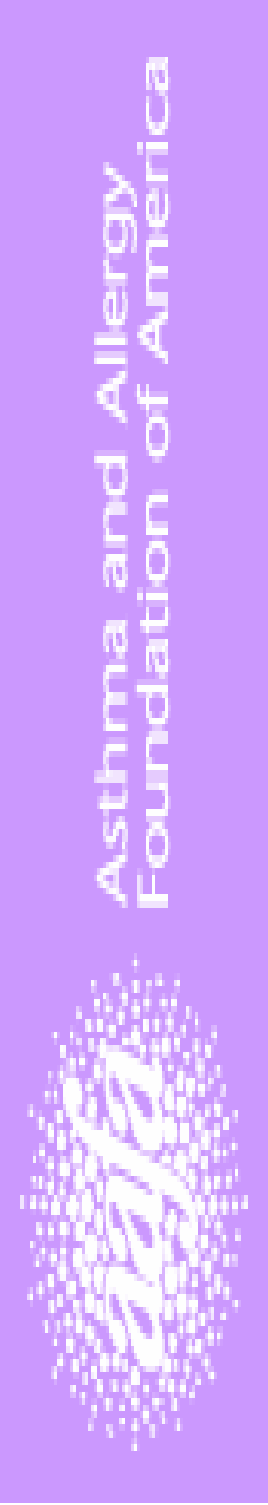
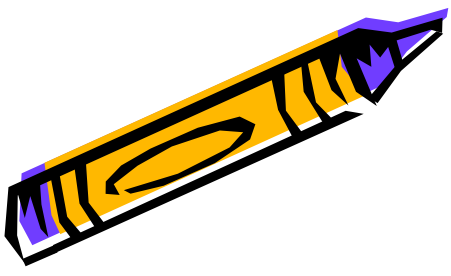
National Heart, Lung, and Blood Institute
National Institutes of Health



Allergy & Asthma Network Mothers of Asthmatics

a non-profit organization





Asthma and Allergy
Foundation of America

A box containing the PollenCast logo and two input fields. The logo features the word "Pollen" in black, "Cast" in red, and a green leaf-like shape. Below the logo, the text reads "For today's forecast, enter a city or US ZIP code".

PollenCast

For today's forecast,
enter a city or US
ZIP code



Activities in the Region

- * An Act to Study IAQ in New Hampshire Schools
<http://www.gencourt.state.nh.us/legislation/2002/hb0329.html>
- * Connecticut's new Public Act 03-220 Governing IAQ in Schools
<http://www.cga.state.ct.us/2003/act/Pa/2003PA-00220-R00HB-06426-PA.htm>
- * Air Quality in Schools: A Vermont Fact Sheet
<http://www.healthyvermonters.info/hp/airquality/schools/schools.shtml>
- * Massachusetts Healthy Schools Website
http://www.mphaweb.org/pol_schools.html
- * [Massachusetts Wins School Siting Regulation, February 2003](#)
- * Northeast States Indoor/Outdoor School Monitoring Project
<http://www.nescaum.org/pdf/schoolmonitoring.pdf>
- * Rhode Island Activities to Promote Healthy Schools
[Rhode Island Tackles Two School Environmental Health Issues](#)
- * Safe and Healthy Schools Project of Maine
http://mainelung.org/learn_with_us/schools/pdfs/s_project_description.pdf

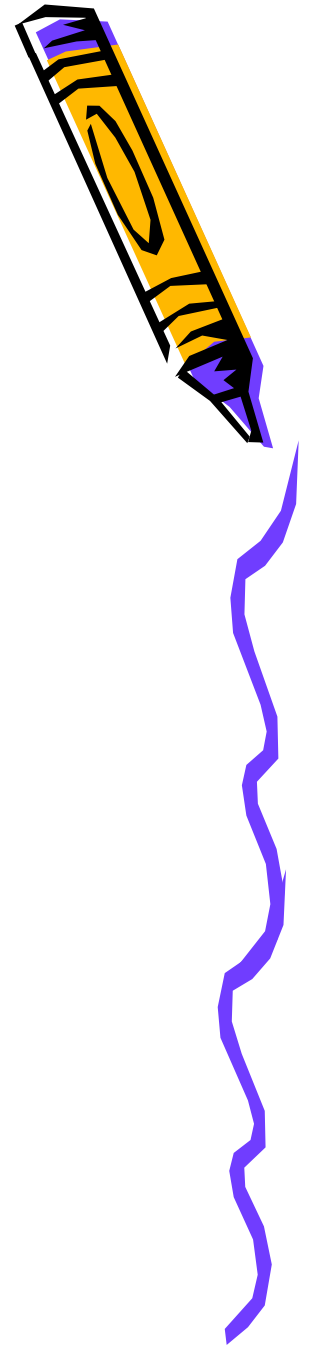
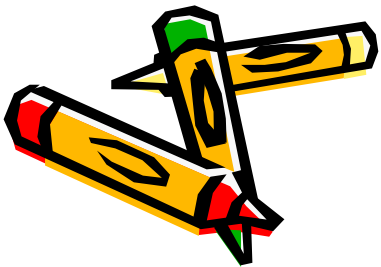


New England Asthma Regional Council



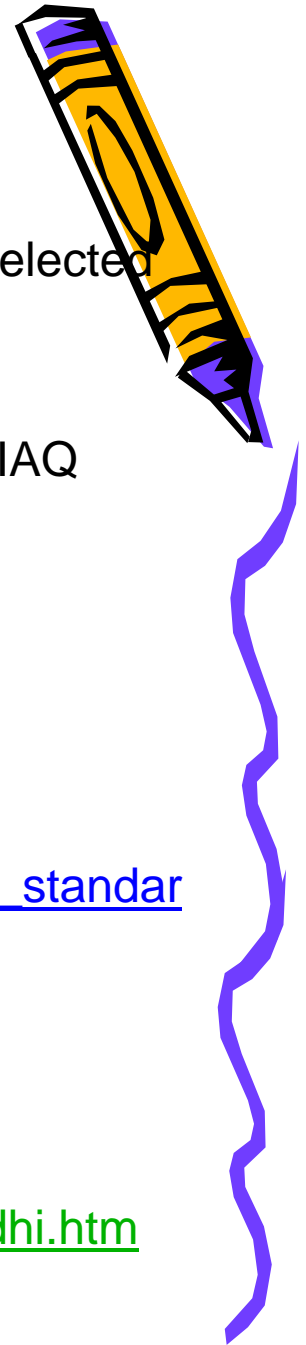
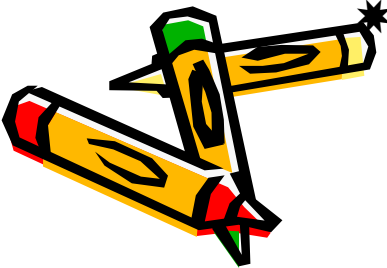
www.asthmaregionalcouncil.org

Laurie Stillman, Dir.



Web Resources

- * Building Healthy, High Performance Schools: A Review of Selected State and Local Initiatives
http://www.elistore.org/reports_detail.asp?ID=10925
- * Healthier Schools: A Review of State Policies for Improving IAQ (2004)
<http://www.eli.org/research/iaqdatabases2004>
- * Case Study of Mold in Schools
<http://www.wsav.com/news/archive/MGBF3UI1F8D.html>
- * Collaborative for High Performance Schools
http://www.mtpc.org/RenewableEnergy/green_schools/chps_standards.htm
- * EPA's Healthy School Environments Webpage
<http://cfpub.epa.gov/schools/index.cfm>
- * How Asthma Friendly is Your School?
<http://www.nhlbi.nih.gov/health/public/lung/asthma/friendhi.htm>



Web Resources

- ✦ Information for Advocates and Legislators
http://www.safechild.net/for_advocates/iaqs.html
- ✦ National Clearinghouse for Educational Facilities
<http://www.edfacilities.org>
- ✦ National Institute of Health: School Health Website
✦ <http://www.nlm.nih.gov/medlineplus/schoolhealth.html>
- ✦ School Facilities' Indoor Air Quality Rankings by State
http://mainelung.org/learn_with_us/lhi3/PDFs/sch_app.pdf
- ✦ Strategies to Manage Asthma in Schools
<http://www.cdc.gov/nccdphp/dash/healthtopics/asthma/>

