

## ◆ **Recommended Component:** **Provide Options for Modified Activity as Indicated by a Student's Asthma Action Plan**

Specific exercise modifications should be incorporated into individual Asthma Action Plans. Students with exercise-induced asthma require modifications such as specific, extended warm-up and cool-down periods, as well as pre-medication.

Again, modifications should be related to the student's peak flow readings and whether or not the student has exercise-induced asthma specifically. (See the American Lung Association Tip Sheet: Peak Flow Meter Readings & Physical Activity Notes included with this hand-out.) In the green zone, the student is free to participate without modifications. If the student is in the yellow zone, extra care is required. He or she should first take their medication as prescribed by their physician and then might be able to participate in modified activities if their peak flow reading improves. For example, modifications might include:

- increased warm-up and cool-down periods to help prevent or lessen episodes of exercise-induced asthma
- alternating run/walk rather than a full distance run
- incorporating less intense aerobic activities (walking, some field events, weight training)

(See the Modified Physical Activity Plan included with this hand-out.)

In the red zone, teachers should:<sup>6</sup>

- Stop the student's current activity
- Follow the asthma action plan
- Help the student use his or her inhaled medication; observe for effect
- Get emergency help if:
  - ◆ the student fails to improve
  - ◆ any of the symptoms listed on the student's asthma action plan as emergency indicators are present
  - ◆ any of the following symptoms are present (consider calling 911):
    - the student is hunched over, with shoulders lifted, and straining to breathe
    - the student has difficulty completing a sentence without pausing for breath
    - the student's lips or fingernails turn blue

See specific action steps in Breathing Difficulties Related to Physical Activity for Students with Asthma: Exercise-Induced Asthma included with this hand-out.

## **REFERENCE MATERIALS**

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- ❖ American Lung Association Tip Sheet: Peak Flow Meter Readings & Physical Activity Notes
- ❖ Modified Physical Activity Plan
- ❖ Breathing Difficulties Related to Physical Activity for Students with Asthma: Exercise-Induced Asthma

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<sup>6</sup> National Heart, Lung and Blood Institute. Asthma & Physical Activity in the School: Making a Difference. 1995

**American Lung Association Tip Sheet:  
Peak Flow Meter Readings & Physical Activity Notes**



**American Lung Association Tip Sheet:  
Peak Flow Meter Readings & Physical Activity Notes**

<b>Color</b>	<b>Peak Flow Reading</b>	<b>Physical Activity Notes</b>
Green	80-100%	Full participation
Yellow	50-80%	<ul style="list-style-type: none"><li>• student should take rescue inhaler as prescribed</li><li>• modified participation</li><li>• inquire about pre-medication</li><li>• increase warm-up and cool-down periods, etc., per student's Asthma Action Plan</li></ul>
Red	less than 50%	<p>Medical Alert:</p> <ul style="list-style-type: none"><li>• student should take rescue inhaler as prescribed</li><li>• may require emergency protocol</li><li>• check student's Asthma Action Plan</li><li>• no physical activity</li><li>• if student improves after taking medication as prescribed, include student in activities such as time- or scorekeeper</li></ul>



**Asthma and Exercise**  
*General Guidelines when there is no Asthma Action Plan*

<b>Peak Flow Meter Zone</b>	<b>Modification</b>
All Students with Asthma	<ol style="list-style-type: none"> <li>1. Pre-medicate as prescribed by physician</li> <li>2. Ensure that rescue medication is readily available</li> <li>3. Ensure long warm-up and cool-down</li> <li>4. Monitor the environment for potential triggers (change environments if necessary)</li> <li>5. Permit student to monitor breathing status using a Peak Flow Meter</li> </ol>
Green (80 – 100%)	<ol style="list-style-type: none"> <li>1. No Modifications required</li> <li>2. Full participation in all activities</li> </ol>
Yellow (50 – 79%)	<ol style="list-style-type: none"> <li>1. Have students take medication as directed by their Asthma Action Plans</li> <li>2. Consider activities that involve stopping and starting or a warm moist environment</li> <li>3. Provide appropriate activity modifications, including rest periods and/or lower intensity of activity</li> </ol>
Red (0 – 49%)	<ol style="list-style-type: none"> <li>1. Stop activity</li> <li>2. Follow emergency asthma plan</li> <li>3. Help athlete use inhaled medication</li> <li>4. Call 911 if athlete does not improve</li> </ol>



## Breathing Difficulties Related to Physical Activity for Students with Asthma: Exercise-Induced Asthma

### Breathing Difficulties Related to Physical Activity for Students With Asthma: Exercise-Induced Asthma

Information for Physical Educators, Coaches and Trainers

#### First Aid for Exercise-Induced Asthma

If, during physical activity, you notice that a student is having difficulty breathing, coughing frequently, or wheezing (noisy when breathing out), it may be asthma:

- **STOP** the student's activity and encourage the student to sit and rest.
- **Call 911** immediately if student requests or is in severe distress—struggling to breathe, lips blue, unable to walk or talk.
- Follow the designated **asthma management plan** (individual student plan, if available, or school protocol).
- Follow the school protocol to **notify the school nurse** (or other designated staff) if medication is not available or if symptoms are not resolved within 5 to 10 minutes after using the inhaler.
- **Never** let a child with breathing problems leave the gym or field **alone**.
- If symptoms resolve, permit students to **resume activity** when they are ready, according to their asthma management plan.
- Follow the school protocol to **inform parents** of the event and document actions taken.



This guidance sheet was developed as a partnership activity facilitated by the NAEPP, coordinated by the NHLBI of the NIH/DHHS

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## Breathing Difficulties Related to Physical Activity for Students with Asthma: Exercise-Induced Asthma (cont.)

### Ways To Help Students with Asthma Participate in Physical Activity

#### Identify Students with Asthma in Your Class or on Your Team

- Ask your school nurse or use student health information to identify those students who have a diagnosis of asthma or a history of asthma symptoms with physical activity.
- Ask the school nurse for a copy of each student's asthma management plan. Keep the copies easily available for all on-site and off-site activities.
- Discuss with students (and parents, if appropriate), the individual student's triggers, signs and symptoms that relate to physical activity.
- Take appropriate steps to inform a student's parents/guardians if the student frequently experiences asthma symptoms with physical activity. The student's asthma management plan may need to be re-evaluated by the student's physician because most students with asthma should be able to participate fully in physical activities, most of the time.
- Help students and the school nurse make sure that the students' prescribed asthma medicines are available for use, according to their asthma management plans, before physical activity and as needed for acute symptoms,

#### Encourage Students to Prepare for Physical Exercise

- Students who have been prescribed pre-exercise treatment (usually an inhaled quick-relief bronchodilator) should take their medicine 5 to 10 minutes prior to exercise
- Encourage a period of warm-up activity before exertion (e.g., walking, flexibility exercises, or other low-intensity activities).
- Check the student's asthma management plan for information about his or her triggers, and help the student avoid them when possible. Each student with asthma is sensitive to different factors in the environment, called triggers. Common triggers include dust, pollen, mold, air pollution, and smoke. Cold, dry air can also trigger asthma; wearing a scarf or cold air mask will help because it warms and humidifies the air before it reaches the airways.

#### Consider Modified Exercise as Needed

- If a student has obvious wheeze, breathing difficulty, or measures a low peak flow rate prior to exercise, have the student treat his/her symptoms according to the asthma management plan. The treatment is usually with prescribed inhaled quick-relief bronchodilator. Physical activity may then be either resumed, modified or halted, depending on the student's response to treatment.
- When a student is having mild symptoms or when triggers are present, consider modifying the intensity, location, or duration of physical activity. Very intense, continuous activity is more likely to cause asthma symptoms than intermittent or very light or non-aerobic exercise (e.g., walking, some field events, or weight training). There is no perfect physical activity for people with exercise-induced asthma. All sports are tolerated well when a student's asthma is under control.
- When environmental conditions are bad (e.g., ozone alerts, high pollen counts, freshly cut or sprayed fields) students with asthma may need to avoid being physically active outdoors.