

What is Persistent Asthma? (Children aged 5-11 yrs, and youths 12 yrs to adults)

BACKGROUND INFO: Asthma severity is the intrinsic intensity of disease. Initial assessment of children who have confirmed asthma begins with determining the level of asthma severity. The step of therapy (of steps 1-6) is then chosen based on the child's level of asthma severity. This initial assessment of asthma severity is usually made before the child is taking some form of long-term control medication. Assessment is made on the basis of current spirometry and the child's (or caregiver's) recall of symptoms over the previous 2-4 weeks. If the assessment is made during a time in which the child is treated for an acute exacerbation, then asking the child (or caregiver) to recall symptoms in the period before the onset of the current exacerbation will be adequate until a follow-up visit can be made. Medications are adjusted as needed (step up in therapy if asthma control is inadequate or step down if asthma control is maximized).

Asthma Severity - Assess Impairment & Risk: The latest guidelines from "The Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma" (National Heart, Lung, and Blood Institute, 2007) recommends that clinicians classify asthma severity by using the domains of current impairment and future risk. The distinction between impairment and risk emphasizes the need to consider separately asthma's effects on quality of life and functional capacity on an ongoing basis and the risks asthma presents for adverse events in the future, such as exacerbations and progressive loss of pulmonary function. These domains of asthma may respond differently to treatment.

Assessment of Current Impairment

Assessment of severity requires assessing the following areas:

- 1) **Symptoms:** if the child is experiencing cough, wheeze, shortness of breath, chest tightness *more than 2 days a week*, (past month) they have persistent asthma.
- 2) **Nighttime awakenings:** if the child is awakening at night *more than 2 times a month* due to asthma symptoms, they have persistent asthma.
- 3) **Need for SABA (short-acting beta-agonist, i.e. albuterol) for quick relief of symptoms:** if the child is requiring the use of a SABA *more than 2 days a week* (past month) for asthma symptoms, they have persistent asthma. (Does not include students who use SABA for the prevention of EIB - exercise induced bronchospasm)
- 4) **Interference with normal activity (including exercise):** if the child is experiencing ANY limitation in their normal activity (even a minor limitation) due to having asthma symptoms, they have persistent asthma.

5) **Lung function, measured by spirometry:** A new emphasis on using FEV₁/FVC has been added to the updated guidelines to classify severity in children because it may be a more sensitive measure than FEV₁. The FEV₁ can be > 80% of predicted and the FEV₁/FVC ratio normal or > 80%, and the child can still be classified as having persistent asthma. If FEV₁ is between 60 to 80% of predicted, or the FEV₁/FVC is 75-80%, the child has moderate persistent asthma. If the FEV₁ is <60% of predicted, or the FEV₁/FVC is <75%, the child has severe persistent asthma.

Assessment of Risk:

Risk is the likelihood of either asthma exacerbations, progressive decline in lung function (or, for children, lung growth), or risk for adverse effects from medication. In general, more frequent and intense exacerbations (e.g., requiring urgent, unscheduled care, hospitalization, or ICU admission) indicate greater underlying disease severity. For treatment purposes, **children who have more than one asthma exacerbation requiring systemic corticosteroids in the past year may be considered the same as patients who have persistent asthma**, even in the absence of impairment levels consistent with persistent asthma. [Ask the child or caregiver if the child has had to take any special medicines after asthma flare-ups such as any of the following: Aristocort, Cortef, Decadron, Delta-Cortef, Deltasone, Dexamethasone, Hydrocortisone, Medrol, Methylprednisolone, Orapred, Orasone, Pediapred, Prednisolone, Prednisone, Prelone, Solumedrol, Triamcinolone.]

Asthma exacerbation defined: Exacerbations of asthma are acute or subacute episodes of progressively worsening shortness of breath, cough, wheezing, and chest tightness—or some combination of these symptoms. Exacerbations are characterized by decreases in expiratory airflow that can be documented and quantified by simple measurement of lung function (full spirometry or FEV₁ or PEF).

The severity and interval since the last asthma exacerbation is always considered. The frequency and severity of asthma exacerbations can fluctuate over time for children in any severity category. The relative annual risk of exacerbations may be related to FEV₁.

IMPORTANT: Acute exacerbations can be mild, moderate, or severe in ANY category of persistent asthma. Patients at any level of severity, even intermittent asthma, can have severe exacerbations.

Information adapted from: Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma. (2007). Retrieved from the National Heart, Lung, and Blood Institute of the National Institutes of Health at <http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.htm>.

Check List for Identifying Persistent Asthma

If **ANY** of the following items is true the student has persistent asthma:

- Student has a current prescription for regular use of any of these medications: Singulair®, Flovent®, QVar®, Pulmicort®, Asmanex®, Advair®, Symbicort®, theophylline, Intal®, Tilade®, or any other **daily control medication** for asthma.
- Student has taken a special medicine (**systemic steroid**) after a severe asthma flare-up **more than once in the last year**, such as any of the following: Aristocort, Cortef, Decadron, Delta-Cortef, Deltasone, Dexamethasone, Hydrocortisone, Medrol, Methylprednisolone, Orapred, Orasone, Pediapred, Prednisolone, Prednisone, Prelone, Solumedrol, Triamcinolone.
- Daytime Symptoms:** student is experiencing cough, wheeze, shortness of breath, chest tightness **more than 2 days a week** (past month).
- Nighttime awakenings:** student is awakening at night **more than 2 times a month** due to asthma symptoms (breathing problems or persistent coughing)
- Need for SABA (short-acting beta-agonist) for quick relief of symptoms:** student requires the use of albuterol (ProAir®, Ventolin®, Proventil® or Xopenex®) **more than 2 days a week** (past month) **for relief of asthma symptoms**. (does NOT include students who use SABA for prevention of EIB - exercise induced bronchospasm, UNLESS student has poor endurance, prolonged recovery time after exercise, or asthma symptoms during usual activities)
- Interference with normal activity (including exercise):** student experiences **ANY** limitation in their normal activity (even a minor limitation) due to having asthma symptoms (breathing problems or persistent coughing)
- Lung function:** student's FEV1 is <80% of predicted **and** has a history of asthma (a student with breathing problems or persistent cough at school who has an FEV1 <80% but has not been diagnosed with asthma **should be referred to the caregiver with documentation of events at school that suggest asthma** for an appointment with a health care provider for a full evaluation)