VALLEY MEDICAL GROUP
Prevention & Medical Care To Help You Live Better, Longer.

Clinical Champion Update

Date: 2/28/23 *Subject: ASTHMA*

Welcome to a brief asthma refresher. Below we have summarized the goals for asthma treatment, the categories of asthma and their definitions, and a brief overview of SMART therapy. Please reach out with any questions or comments.

GOALS OF ASTHMA TREATMENT:

OPTIMIZING CONTROL OF ASTHMA SYMPTOMS – **Good control of asthma means reducing the intensity and frequency of asthma symptoms and maintaining normal or near normal activity levels. Specific goals for asthma control include:**

- **Freedom from frequent or troublesome symptoms of asthma (cough, chest tightness, wheezing, or shortness of breath)**
- **Few night-time awakenings (≤2 nights per month) due to asthma**
- **Minimal need (≤2 days per week) for medication for acute relief of asthma symptoms**
- **Optimized lung function**
- **Maintenance of normal daily activities, including work or school attendance and participation in athletics and exercise**
- **Satisfaction with asthma care on the part of patients and caregivers**

REDUCING FUTURE RISK – **The concept of risk encompasses the various adverse outcomes associated with asthma and its treatment. These include asthma exacerbations, suboptimal lung development (children), loss of lung function over time (adults), and adverse effects from asthma medications. A history of ≥1 exacerbation(s) in the past year is an independent risk factor for future exacerbations, as are poor adherence to asthma medication, incorrect inhaler technique, low lung function, smoking (eg, tobacco, cannabis) or vaping, an elevated concentration of exhaled nitric oxide (fractional exhaled nitric oxide, FeNO), and blood eosinophilia.**

Specific goals for reducing risk include:

- **Prevention of recurrent exacerbations and need for emergency department or hospital care**
- **Prevention of reduced lung growth in children and loss of lung function in adults (due to poor asthma control)**
- **Optimization of pharmacotherapy with minimal or no adverse effects**

ASTHMA CATEGORIES BY SEVERITY PER NAEPP/NATIONAL ASTHMA EDUCATION AND PREVENTION PROGRAM:

INTERMITTENT**- Intermittent asthma is characterized by the following features in adults and adolescents:**

- **Daytime asthma symptoms occurring two or fewer days per week**
- **Two or fewer nocturnal awakenings per month**
- **Use of short-acting beta-agonists (SABAs) to relieve symptoms two or fewer days per week**
- **No interference with normal activities between exacerbations**
- **FEV1 measurements between exacerbations that are consistently within the normal range (ie, ≥80 percent of predicted)**
- **FEV1/FVC ratio between exacerbations that is normal (based on age-adjusted values)**
- **One or no exacerbations requiring oral glucocorticoids per year**
- **If any of the features of a patient's asthma is more severe than those listed here, the asthma should be categorized as persistent, with its severity based on the most severe element.**
- **A person using a SABA to prevent exercise-induced asthmatic symptoms might fit into this category of intermittent asthma even if exercising more than twice per week.**

If any of the features of a patient's asthma is more severe than those listed here, the asthma should be categorized as persistent, with its severity based on the most severe element.

A person using a SABA to prevent exercise-induced asthmatic symptoms might fit into this category of intermittent asthma even if exercising more than twice per week.

MILD PERSISTENT: **Mild persistent asthma is characterized by the following:**

- **Symptoms more than twice weekly (although less than daily)**
- **Approximately three to four nocturnal awakenings per month due to asthma (but fewer than every week)**
- **Use of SABAs to relieve symptoms more than two days out of the week (but not daily)**
- **Minor interference with normal activities**
- **FEV1 measurements within normal range (≥80 percent of predicted)**

MODERATE PERSISTENT: **The presence of any of the following features is considered an indication of moderate disease severity:**

- **Daily symptoms of asthma**
- **Nocturnal awakenings as often as once per week**
- **Daily need for reliever therapy for symptom relief**
- **Some limitation in normal activity**
- **FEV1 ≥60 and <80 percent of predicted and FEV1/FVC below normal**

SEVERE PERSISTENT:

- **Symptoms throughout the day,**
- **nocturnal awakening due to asthma nightly,**
- **reliever medication needed for symptoms several times/day, or extreme activity limitation due to asthma [1,2].**

Such patients need prompt initiation of asthma therapy. The response to therapy is difficult to predict at initial presentation. Intensive therapy should be begun, but some patients will achieve good asthma control long term with only low-to-medium doses of inhaled GC and no longer be considered to have severe asthma.

SMART (SINGLE INHALER MAINTENANCE AND RELIVER THERAPY)

USING ICS/LABA COMBINATION INHALER USE AS RESCUE INHALER (OFF-LABEL)

For patients with *mild persistent asthma*, NAEPP recommends using a regimen that includes a low-dose inhaled glucocorticoid. They suggest regular (daily) use of a low-dose inhaled glucocorticoid or a combination low-dose glucocorticoid-LABA inhaler, because regular use of inhaled glucocorticoids reduces the frequency of symptoms (and the need for SABAs for symptom relief), improves the overall quality of life, and decreases the risk of serious exacerbations. An alternative, as proposed by GINA, (Global Initiative for Asthma) is as-needed use of a combination budesonide-formoterol (Symbicort) inhaler (off-label).

For *moderate persistent asthma*, the preferred controller therapy is a combination low-dose inhaled glucocorticoid and LABA in a single inhaler (for adults and adolescents. Because of the rapid onset of action of formoterol, a combination budesonide-formoterol inhaler can be used both for daily controller therapy and for quick relief of symptoms, a recommended strategy referred to as SMART (Single inhaler Maintenance and Reliever Therapy). It is likely that a combination mometasone-formoterol (Dulera) inhaler can be used in the same way (for both maintenance therapy and for acute relief of symptoms), but fewer data are available with this combination.

This strategy (SMART) has the advantages of: (1) patients are required to master the use of and keep with them one inhaler rather than two; and (2) additional inhaled glucocorticoid is administered when symptoms flare and acute relief of symptoms is needed. Alternatively, patients can use a low-dose inhaled glucocorticoid-LABA combination inhaler daily and a SABA for acute relief of symptoms. While LABA use was at one time thought to be associated with an increased risk of severe and life-threatening asthma attacks, subsequent large scale randomized trials regarding the use of combination inhalers containing inhaled glucocorticoid and a LABA found no such association, and the "boxed" warning (also called black box warning) that had been included in the package inserts of all LABA products was removed. It remains true that LABAs by themselves should not be used to treat asthma in the absence of concomitant anti-inflammatory therapy, typically an inhaled glucocorticoid.

Insurance coverage of 2 ICS/LABA inhaler per month may be a barrier, insurance may require that all patients are also prescribed SABA. In addition, providers may need to cite the above recommendations for PA.

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