Take-home points from updated asthma management guidelines
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An expert panel has updated its asthma management guidelines, giving providers increased flexibility and options for tailored treatments.

The 2020 Focused Updates to the Asthma Management Guidelines(http://bit.ly/36DEo5R) are the first revisions since the previous guidelines were released in 2007 by the National Asthma Education and Prevention Program Coordinating Committee Expert Panel Working Group of the National Heart, Lung, and Blood Institute.
The panel relied on systematic reviews conducted by the Agency for Healthcare Research and Quality to address six priority topics:

1. use of fractional exhaled nitric oxide (FeNO),
2. mitigation of indoor allergens,
3. intermittent medication dosing in recurrent wheezing,
4. long-acting muscarinic-antagonists (LAMA) as step-up therapy,
5. immunotherapy and
6. bronchial thermoplasty.

The updates of greatest relevance to primary care pediatric clinicians are discussed below.

**Mitigation of indoor allergens**

The panel recommends targeting indoor allergens with multimodal approaches for individuals who are both sensitized and exposed to indoor allergens, or who have symptoms from exposure to specific allergens.

Environmental interventions may include use of impermeable mattress covers, high-efficiency particulate air vacuum cleaners, integrated pest management and mold mitigation. Except for integrated pest management, single interventions generally are not effective or recommended.

**Intermittent medication dosing in recurrent wheezing**

The 2020 updates outline age-based recommendations for the intermittent use of inhaled corticosteroids (ICS).

For children ages 0-4 years with recurrent wheezing triggered only by respiratory tract infections, the recommendation is to treat acute viral illnesses with a short course (seven to 10 days) of twice daily ICS at symptom onset and a short-acting beta₂-agonist (SABA) as needed. This contrasts with the prior recommendation of as-needed SABA use with consideration for oral steroids based on illness severity.

Notably, this recommendation is for children ages 0-4 years who do not experience wheezing between viral illnesses and who are not taking daily asthma controller medications.

For children 4 years and older with moderate to severe persistent asthma, the panel now recommends single maintenance and reliever therapy (SMART) using ICS-formoterol for both daily and rescue use instead of either daily dose ICS with reliever SABA or daily ICS-long-acting beta₂-agonist (LABA) with reliever SABA.

The recommended LABA for this approach is formoterol because of its rapid onset of action and more frequently allowable dosing. For example, children who qualify for SMART can use one to two puffs of ICS-formoterol once or twice daily as maintenance, with one to two additional puffs as needed for asthma symptoms. The daily maximum is eight puffs (36 micrograms [mcg] formoterol) for children ages 4-11 years and 12 puffs (54 mcg formoterol) for children 12 years and older.

Important logistical limitations to using SMART include formulary coverage and cost. Depending on symptom frequency, a one-month supply may not last for maintenance and reliever use.

For children ages 12 years and older with mild persistent asthma, the 2020 focused updates include a new option for intermittent ICS use. Providers can choose to either prescribe daily low-dose ICS with as-needed SABA reliever or intermittent use of ICS with concomitant as-needed SABA reliever only with wheezing. An example of the intermittent approach would be 80-250 mcg of beclomethasone (or equivalent ICS) and two to
four puffs albuterol (SABA) used every four hours as needed.

**Long-acting muscarinic-antagonists**

In individuals 12 years and older with uncontrolled persistent asthma, clinicians may consider adding a LAMA to maintenance therapy. For example, if a patient is uncontrolled on ICS alone, clinicians should first consider SMART, or if not an appropriate candidate, then ICS-LABA. If the patient remains uncontrolled, the clinician should consider the addition of daily LAMA therapy (“triple therapy”). This decision likely will involve consultation with a specialist.

LAMA therapy is contraindicated in those with urinary retention and glaucoma. Notably, LAMA formulations do not require use of a valved holding chamber (spacer), while many other inhalers do.

In counseling all patients with asthma and their families about medications, clinicians should focus on the appropriate use of controller medications and on proper technique for use of inhalers and spacers. It is especially prudent to review technique with patients who are using multiple types of inhalers.

**Immunotherapy**

Some parents and patients desire a reduction in daily asthma therapies. Subcutaneous immunotherapy is recommended for such children ages 5 years and older with mild to moderate asthma, allergic sensitization (evidenced by hypersensitivity skin testing or serum allergen-specific IgE antibody) and reaction to exposure. Asthma must be controlled at the time of injections, which must be administered in a monitored setting. Sublingual immunotherapy is not recommended to control asthma.

When used as part of ongoing comprehensive asthma management, FeNO measurements can augment asthma diagnosis and management in older children. Bronchial thermoplasty is used in adults with moderate to severe asthma but is not recommended for children.

In summary, the evidence-based 2020 *Focused Updates to the Asthma Management Guidelines* allow providers increased flexibility in the medical management of asthma with options for individual approaches that may yield better adherence. Of note, the focused updates do not address the use of biologic therapies.

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