Effective Date: December 28, 2009

Reason for Attestation:
- Annual review and update of existing guideline

Key Guideline Updates/Revisions:
- Addition of following treatment options --
  - Azelastine hydrochloride (Astepro)
  - Montelukast (Singulair) for some patients with asthma
ALLERGIC RHINITIS

Allergic rhinitis is an IgE-mediated inflammatory disease involving the nasal mucosa membranes in which symptoms result from a complex allergen-driven mucosal inflammation and may be characterized by early-phase and late-phase responses. Symptoms may be episodic, seasonal or perennial. Repeated exposures (“priming”) may result in a slower rate of symptom resolution. Allergic conjunctivitis is frequently a comorbidity with allergic rhinitis (see Conjunctivitis guideline).

Refer Out

- Less than 2 years old
- Currently taking oral steroids for severe allergic reaction
- Currently taking allergen immunotherapy
- Asthmatics with exacerbation symptoms (see Asthma Monitoring guideline)

Differential Diagnosis

- Viral Upper Respiratory Illness (use VURI guideline) – Gradual onset of symptoms of general malaise, laryngitis, injection of the conjunctiva, and headache
- Vasomotor rhinitis (Idiopathic rhinitis) – Persistent nasal congestion that does not have a correlation to specific allergen exposures with rapid onset of nasal congestion and noticeable postnasal drip
- Atrophic rhinitis – nasal airways are clear, mucosa is dry
- Rhinitis medicamentosa – rebound nasal congestion due to persistent nasal decongestant use
- Bacterial sinusitis (use Sinusitis guideline)
- Foreign body
- Deviated septum
- Nasal polyps – Associated with nasal congestion, rhinorrhea and anosmia
- Nasal or sinus tumors/cancer -- Symptoms may include recent onset gastroesophageal reflux (GERD), pain, decreased sensation of face, palate, teeth

Clinical Presentation

Patient may complain of:

- Nasal congestion, sneezing and clear rhinorrhea or postnasal drainage, chronic sniffing
- Itching of the nose, eyes, palate, and ears
• Coughing (may be more prevalent in the morning)
• Sore/scratchy throat or itchy palate
• Sinus pressure
• Puffiness, redness, and watering of eyes may occur
• Report sensitivity to specific allergen: dust, pollen, mold, etc.
• Seasonal, perennial or episodic symptoms
• Family history of allergies

On exam:
• Pale, boggy nasal mucosa with clear thin secretions
• Enlarged nasal turbinates which may obstruct airway flow, Mouth-breathing (allergic gape)
• Allergic shiners, periorbital edema, cobblestone appearance of the conjunctiva with erythema
• Dennie’s lines (lower eyelid creases)
• Nasal salute
• Enlarged tonsils and adenoids, pharyngeal cobblestone appearance

Treatment Options

($ = <$25, $$ = $25-50, $$$ = $50-100, $$$$ = $100-150, $$$$$ = >$150)
<table>
<thead>
<tr>
<th>Treatment Option</th>
<th>Advantages</th>
<th>Disadvantages</th>
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<tbody>
<tr>
<td>Nasal Saline</td>
<td>○ Improves mucus clearance &lt;br&gt;○ Enhances ciliary beat activity &lt;br&gt;○ Removes antigens, biofilm or inflammatory mediators &lt;br&gt;○ May provide protective effect on sino-nasal mucosa</td>
<td>○ None</td>
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<td>Intranasal Corticosteroids (INS) (e.g., Fluticasone)</td>
<td>○ Most effective monotherapy &lt;br&gt;○ First line for moderate to severe symptoms &lt;br&gt;○ Effective in controlling sneezing, itching, rhinorrhea, and nasal congestion</td>
<td>○ Onset of action may be up to 12 hours &lt;br&gt;○ Maximum efficacy may not be achieved for up to 2 weeks – consider concomitant use of oral antihistamines</td>
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<td>Second generation oral antihistamines (e.g., loratadine)</td>
<td>○ Preferred over 1st generation to minimize sedation, performance impairment, and anticholinergic effects &lt;br&gt;○ Consider for patients unable or unwilling to use INS &lt;br&gt;○ May be used alone in mild and episodic AR</td>
<td>○ None</td>
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<td>Intranasal Antihistamines (e.g., Azelastine)</td>
<td>○ Significant rapid onset of action &lt;br&gt;○ Appropriate for use in episodic AR &lt;br&gt;○ Effectiveness equal to or superior to oral 2nd generation antihistamines with clinically significant effect on nasal congestion</td>
<td>○ Less effective than INS for nasal symptoms &lt;br&gt;○ Bitter taste</td>
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<td>Oral Decongestants (e.g., pseudoephedrine)</td>
<td>○ Reduces nasal congestion &lt;br&gt;○ May be used in combination with antihistamines for more effective relief of nasal congestion than with an antihistamine alone</td>
<td>○ Combination products (antihistamine/decongestants like Allegra-D) do not provide the ability to discontinue one or the other as symptoms improve. &lt;br&gt;○ Many combination have replaced pseudoephedrine with phenylephrine &lt;br&gt;○ Efficacy of phenylephrine has not been well established</td>
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<td>Leukotriene receptor antagonists (LTRA) (e.g., Montelukast)</td>
<td>○ No significant difference in efficacy between LTRA and oral antihistamines &lt;br&gt;○ Combination therapy with an antihistamine may provide an alternative treatment for patients with comorbid asthma who are unresponsive to or not compliant with INS</td>
<td>○ Less effective than INS &lt;br&gt;○ Reported neuropsychiatric events with these drugs have included agitation, aggression, anxiousness, irritability, restlessness and insomnia. &lt;br&gt;○ Patients have also experienced tremors, dream abnormalities, hallucinations, depression and suicidality, including suicide.</td>
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<tr>
<td>Antihistamine</td>
<td>OTC or RX</td>
<td>Dosing Frequency</td>
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| Loratadine (e.g., Claritin) ($) | OTC | ≥6 years and adults: 10mg by mouth once a day  
2-5 years: 5 mg by mouth once a day | Category B |
| Cetirizine (e.g., Zyrtec) ($) | OTC | ≥12 years and adults: 10mg by mouth once a day  
6-11 years: 5mg by mouth once a day  
2-5 years (use liquid): 2.5mg (2.5 mL) by mouth once a day | Category B  
Not recommended for nursing mothers  
May be more sedating than loratadine |
| Chlorpheniramine ($) | OTC | ≥12 years and adults: 4mg by mouth every 4-6 hours (Max 24mg/24hours)  
6-11 years: 2 mg by mouth every 4-6 hours (Max 12mg/24 hours)  
2-5 years: 1 mg by mouth every 4-6 hours (Max 4mg/24 hours) | Category B  
Preferred drug during the first trimester  
May cause sedation/drowsiness – first generation antihistamine |
| Fexofenadine (e.g., Allegra) (60 mg $$; 180mg $$$) | RX | ≥12 years and adults: 60mg by mouth two times a day or 180mg by mouth once a day  
6-11 years: 30mg by mouth two times a day  
2-5 years: 30 mg (5 mL) by mouth two times a day | Category C  
Suspension recommended for <6 years old  
30 day supply  
May refill x 2 |
| Desloratadine (e.g., Clarinex) ($$$) | RX | ≥12 years and adults: 5mg by mouth once a day  
6–11 years: 2.5 mg by mouth once a day  
2–5 years (use syrup): 1.25 mg (2.5mL) by mouth once a day | Category C  
Not recommended for nursing mothers  
30 day supply  
May refill x 2 |
| Azelastine (Astepro) ($$$) | RX | ≥12 years and adults: 1-2 sprays in each nostril two times a day | Category C  
Intranasal antihistamine, not steroid  
137 mcg/inhalation nasal spray  
30 day supply  
May refill x2 |
| Azelastine (Astellin) ($$$) | RX | ≥12 years and adults: 1-2 sprays in each nostril two times a day  
5-11 years: 1 spray in each nostril two times a day |
RX Intranasal Corticosteroid Sprays (30 day supply; May refill x2)

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<tr>
<th>Intranasal Corticosteroid</th>
<th>Dosing Frequency</th>
<th>Pregnancy Category</th>
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</table>
| Fluticasone (Flonase) 0.05 mg/inh Intranasal Spray ($$) | - ≥12 years and adults: 2 sprays in each nostril once a day  
- 4-11 years: 1 spray in each nostril daily | • Category C |
| Mometasone (Nasonex) 50 mcg/inh Intranasal Spray ($$$) | - ≥12 years and adults: 2 sprays in each nostril once a day  
- 2-11 years: 1 spray in each nostril daily | • Category C |
| Triamcinolone (Nasacort AQ) 55 mcg/inh Intranasal Spray ($$$) | - ≥13 years and adults: 2 sprays in each nostril once a day  
- 6-12 years: 1-2 spray in each nostril daily  
- 2-5 years: 1 spray in each nostril daily | • Category C |
### Other OTC Options

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<tr>
<th>Medication</th>
<th>Dosing</th>
<th>Considerations</th>
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<tr>
<td><strong>Pseudoephedrine ($)</strong></td>
<td>≥18 years: 60 mg (immediate release) every 6 hours as needed or 120 mg (sustained release) every 12 hours as needed</td>
<td>Pregnancy category C&lt;br&gt;For relief of nasal congestion&lt;br&gt;All studies regarding efficacy performed using 240 mg daily dosage&lt;br&gt;Do not use in patients with comorbid cardiac or coronary artery conditions&lt;br&gt;Do not use in patients with history of hypertension or blood pressure reading above 135/85 mm Hg</td>
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<tr>
<td><strong>Oxymetazoline ($)</strong></td>
<td>Age ≥6 years -- 2 sprays both nostrils every 12 hours for no more than 3 days</td>
<td>Pregnancy category C&lt;br&gt;For relief of nasal congestion&lt;br&gt;May be used with caution if HTN well-controlled &lt;135/85</td>
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<tr>
<td><strong>Nasal Saline</strong></td>
<td>Nasal wash (e.g., Sinus Rinse® or generic) – Use 2 times a day, as needed&lt;br&gt;Saline spray (e.g., Ocean®, Ayr® or generic) every 2 hours while awake for patients who are reluctant to use nasal wash</td>
<td>- Good option for those who cannot take INS but less effective than INS&lt;br&gt;- Most effective when started before symptoms begin; onset of action 4-7 days&lt;br&gt;- Pregnancy category B; caution in nursing mothers</td>
</tr>
<tr>
<td><strong>Cromolyn Sodium ($)</strong></td>
<td>≥2 years: one spray to each nostril every 4-6 hours</td>
<td>- Good option for those who cannot take INS but less effective than INS&lt;br&gt;- Most effective when started before symptoms begin; onset of action 4-7 days&lt;br&gt;- Pregnancy category B; caution in nursing mothers</td>
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Leukotriene Inhibitor – for patients with asthma comorbidity who are unresponsive to or non-compliant with INS

- Montelukast (Singulair) ($$$$)
  - 15 years to Adult: 10mg by mouth once a day in the evening
  - 6-14 years: 5mg by mouth once a day in the evening
  - 2-5 years: 4mg by mouth once a day in the evening
  - Pregnancy category B
  - If initiating treatment (patient has never been on Montelukast) recommend following up in 2 weeks at MC or a primary care provider to evaluate effectiveness and any side effects that may have presented.

Patient Education

- Environmental control measures for pollens, fungi/molds, dust mites, pet dander, and insects.
- Minimize exposure to other irritants like smoke, perfumes, cosmetics, hair spray, and other odors
- Suggest development of a rhinitis action plan that includes what medications to use for specific symptoms and when to seek medical attention in conjunction with Primary Care Provider
- Provide instructions on use of intranasal sprays (Key points)
  - Shake the bottle well
  - Blow nose until clear before administering medication
  - Tilt head slightly forward, place the nasal applicator into the nostril making sure to keep the bottle upright (“Look at your toes and spray your nose“)
  - Breathe normally when spraying the medication
  - Wipe the applicator with a clean tissue after use

Follow-Up

- Seek immediate medical attention for difficulty breathing, wheezing, shortness of breath, chest discomfort.
- Follow up with MinuteClinic or primary care provider in 14 days if no improvement in symptoms.
- **Initiation of Montelukast:** Follow up with MinuteClinic or primary care provider in 2 weeks to evaluate effectiveness and any side effects that may have developed.
References


2. Brunton SA, Fromer LM. Treatment options for the management of perennial allergic rhinitis, with a focus on intranasal corticosteroids. Southern Medical Journal. 2007;100(7):701-708.


