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# Allergic Rhinitis: Treatment of a Seasonal Problem

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Milton Family Practice

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# Problem Identification

- ▶ Allergic Rhinitis, also known as Seasonal Allergies, is a very common disorder that affects up to 30% of children and adults in the industrialized world.
- ▶ The prevalence of allergic rhinitis has been steadily increasing over the last few decades. Certain peculiarities of our modern lifestyles like greater time spent indoors, less exposure to pathogens, and inhalation of air pollutants have led to hyperactivity of some immune systems through a mechanism that is not yet completely understood.
- ▶ The rise of seasonal allergies has been a significant driver of pharmacotherapy aimed at calming the immune system. Many of these therapies are now available as over the counter medications making them easy to obtain for the poor soul suffering from a runny nose and congested head. However, discussions with patients in our clinic have revealed that they lack basic knowledge about treatment options available to them.

# Problem Identification

- ▶ While typically considered a benign disease, the health burden from allergic rhinitis is not insignificant. For those suffering from the disease it feels like coming down with a cold for the duration of allergen exposure. Patients with seasonal allergies report lower quality of life scores, problems sleeping, issues concentrating, poor work/school performance, and impaired athletic performance while pollen counts are high.
- ▶ Furthermore, persistent exposure to an allergen can lead to allergen priming where lower and lower doses of the compound can cause an increasingly severe reaction. Patients who do not control their allergies may eventually experience sudden closing of their airways and require emergency intervention.

# Public Health Costs

- ▶ Allergic rhinitis is associated with significant morbidity and mortality. Symptoms and sequelae of allergies accounts for almost 2.5% of all physician visits. Estimates in 2000 put the economic burden at:
  - ▶ 2 million lost school days
  - ▶ 6 million lost work days
  - ▶ 1.1 billion dollars spent on physician visits
  - ▶ 2.4 billion dollars spent on medication
- ▶ Recent spending trends have reflected the increasing prevalence of the disease
  - ▶ Spending on allergic rhinitis jumped from 6 billion dollars in 2000 to over 11 billion dollars in 2005

# Community Perspective

- ▶ In-person interview with [Name Withheld], MD: Allergist at Timberlane Allergy and Asthma Associates
  - ▶ It's important to understand what we are treating. Often patients will come to a primary care clinic complaining of repeat colds or chronic sinus problems when they are really suffering from allergic rhinitis.
  - ▶ Vermont is a bad place for those allergic to animal dander. About 80% of residents own animals or come into contact with animals on a daily basis making it a challenge to manage symptoms. And there is NO SUCH THING as a hypoallergenic animal.
  - ▶ Testing our patients for allergies is crucial to their care. Knowing what they are allergic to helps them avoid specific triggers and allows us to guide the next steps in their health care.
  - ▶ If a patient isn't well controlled on one OTC allergy medication it's time to think about other options for treatment. Many patients believe switching medications will alleviate their symptoms but there is little evidence that is the case.

# Community Perspective Continued

- ▶ In-person interview with [Name Withheld], Pharm D. Clinical pharmacist at Milton Family Practice
  - ▶ There are a lot of options available for patients and I think a lot of them don't really understand what to use and how to use them.
  - ▶ I've heard a lot of success stories with certain medications but others are completely worthless. Sometimes the reason patients aren't getting better is because they are using the wrong drug.
  - ▶ Some people don't realize that first generation and even some second generation antihistamines can cause drowsiness. They'll take an antihistamine and find that the treatment is worse than the disease because they can't get anything done.

# Intervention and Methodology

- ▶ The goal of this project is to provide patients with a concise review of the causes, symptoms, and treatments available for allergic rhinitis that they can use to help guide their decision making process.
- ▶ In order to achieve this goal, I reviewed literature sources and talked with several experts in the field to compile a list of the most salient topics to address in a patient handout. These are as follows:
  - ▶ Differentiation between allergic rhinitis, sinusitis, and the common cold
  - ▶ How to determine which allergens are causing problems for a patient
  - ▶ Review of medications and methods used to treat allergies
  - ▶ Information on when to seek more advanced care



# Results

## Brochure for patients on symptoms/treatment of allergies

### Anti-histamines (continued)

3. Loratadine (Claritin, generic brands)
  - Pros: Non-drowsy, great for daytime use
  - Cons: May cause dry mouth
4. Fexofenadine (Allegra, generic brands)
  - Pros: Also non-drowsy
  - Cons: May cause dry mouth

### Eye Drop Anti-histamines

1. Ketotifen (Alaway, Zaditor)
  - Pros: Excellent for red, itchy eyes
  - Cons: Doesn't touch the other symptoms

### Nasal Spray Anti-histamines

1. Azelastine (Astellin, Astepro)
  - Pros: Faster action, targets symptoms directly
  - Cons: May cause headaches, nasal burning, sneezing, and nosebleeds

2. Olopatadine (Patanase)

- Pros/cons: Same as Azelastine

### Corticosteroids

Corticosteroids are the strongest over the counter treatments available for people suffering from allergies. They should only be used if the above treatments have failed.

Corticosteroids come in two varieties: nasal sprays and oral pills. The pills are only used in severe circumstances and will not be discussed here.

### Nasal Corticosteroids

All of these drugs have excellent symptom relief but users may not see any effect until up to 2 weeks after starting the drug. They may cause nosebleeds, dry nose, or sneezing.

### Types of Nasal Corticosteroids

1. Triamcinolone Acetonide (Nasacort)
2. Fluticasone (Veramyst, Flonase)
3. Mometasone Furoate Monohydrate (Nasonex)
4. Budesonide (Rhinocort)

### If Treatment Fails

Unfortunately not everyone responds to treatment in the same way. If symptoms continue after trying these medications it may be time to schedule a visit with an Allergist, a doctor trained specifically to deal with difficult allergies.

If you need help locating an Allergist, contact your primary care physician or visit online [www.ACAAI.org](http://www.ACAAI.org)

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# Allergies

## How to Approach a Seasonal Problem

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### What are Allergies?

Seasonal Allergies (a.k.a. Allergic Rhinitis) is a condition where a particular molecule, or allergen, triggers your body's immune system.

It can be caused by many different things but the most common allergens in Vermont are:

- Animal dander
- Tree pollen (April through June)
- Grass (May through July)
- Ragweed (August and September)
- Dust Mites
- Cockroaches

### What can I do to Prevent Allergies

- Keep windows and doors closed during the months when allergens are high
- Clean mold with bleach
- Use HEPA filters for small allergens like mold, pollen, animal dander
- Avoid animal contact (there is NO SUCH THING as a hypoallergenic animal)
- Clean clothes and bedding regularly to rid it of dust mites

	Bacterial Sinus Infection	Common Cold	Seasonal Allergies
What it feels like	<ul style="list-style-type: none"> <li>• Very bad headache (especially above and below the eyes)</li> <li>• Pain in the teeth</li> <li>• Fever above 100.5 F</li> <li>• Stuffy nose with green mucous</li> </ul>	<ul style="list-style-type: none"> <li>• Muscle/joint aches</li> <li>• Temperature less than 100.5 F</li> <li>• Cough</li> <li>• Stuffy nose with yellowish mucous</li> <li>• Sore throat</li> </ul>	<ul style="list-style-type: none"> <li>• Sneezing</li> <li>• Stuffy nose with watery mucous</li> <li>• Red, itchy eyes</li> <li>• Sore throat (from draining mucous)</li> </ul>
How it begins	Usually develops within 1 day after recovery from a common cold	Symptoms begin over 1-2 days and peak by 3-4 days	Starts within minutes of contacting an allergen
How long it lasts	Over 10 days but most resolve within 4 weeks without antibiotics (consult your doctor if symptoms persist past 10 days)	Usually lasts a week but some symptoms like the cough can persist longer	As long as you are in contact with the allergen

### Treatment Options

#### Nasal rinses

The only non-drug treatment recommended for runny noses, nasal rinses are a good first option for people whose main concern is a stuffy nose. But do make sure to follow the directions closely!

#### Anti-histamines

These are usually the first medicines used for mild to moderate allergy symptoms. They come in three varieties: oral pills, eye drops, and nasal sprays.

#### Oral Anti-histamines

1. Diphenhydramine (Benadryl, generic brand)
    - Pros: Fast acting, good choice for night time allergies
    - Cons: Will make you sleepy!
  2. Cetirizine (Zyrtec, generic brands)
    - Pros: Less sleepiness than diphenhydramine
    - Cons: Will still make you sleepy!
- (See the back for more)

### For more Information

More drug and Allergy Info  
Visit online: [www.AAAAI.org](http://www.AAAAI.org) or [www.ACAAI.org](http://www.ACAAI.org)

Pollen Counts: [www.TLAAA.org](http://www.TLAAA.org)  
[www.Timberlane.org](http://www.Timberlane.org) Allergy and Asthma

Questions or Concerns?  
Call your doctor!

# Evaluation of Effectiveness and Limitations

- ▶ Evaluation of the effectiveness of this pamphlet can be determined in two ways
  - ▶ Qualitatively physicians can provide the pamphlet to patients and ask them about their knowledge at a follow up visit.
  - ▶ Quantitatively the staff can record how many pamphlets are printed and handed out in order to determine if patients are finding the reading material helpful.
- ▶ Limitations
  - ▶ The pamphlet is a limited amount of space to discuss a rather complex topic.
  - ▶ Patients with certain limitations like blindness, mental disorder, or lack of reading ability will be unable to interact with the material.
  - ▶ Availability of the material is contingent on staff offering it to the patient or the patient taking time to peruse it.

# Recommendations for Future Interventions

- ▶ Creation of a short quiz to test patients on their knowledge and misconceptions to further guide informational material.
  - ▶ A short 5-10 question quiz could be administered to patients before their visit to gain a more reliable understanding of the most common misconceptions they have about allergic rhinitis. This data would then be used to guide additional educational materials and .
- ▶ Based on the success of this pamphlet, there are several options
  - ▶ If the pamphlet is well received and often requested, the pamphlet can be integrated into Prism's patient instructions database and handed out automatically upon checkout.
  - ▶ If the pamphlet is not well received:
    - ▶ Better placing might be necessary, either in a high traffic volume area or in a place where patients spend time waiting
    - ▶ A different method, such as posting a flyer, or creating a YouTube video, could be used to cover the same information in a more efficient format.

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