



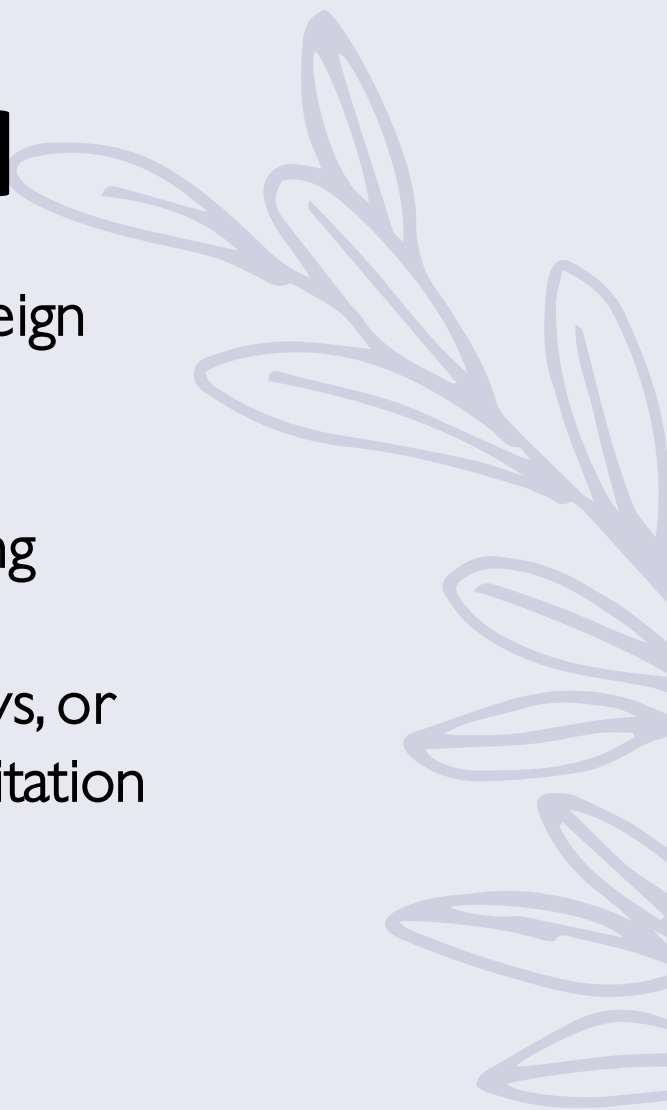
# **ALLERGIES**



# **ALLERGIES AND THE IMMUNE SYSTEM**

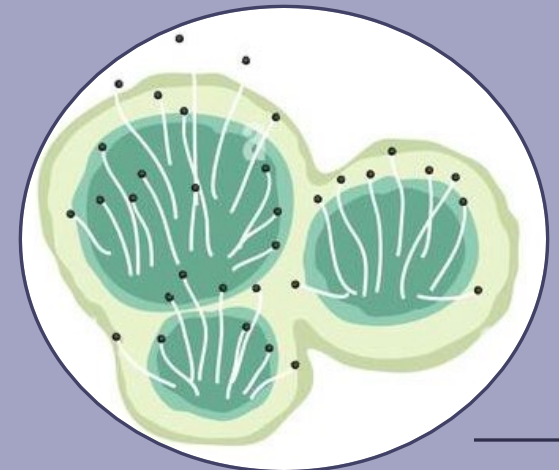
Allergies occur when the immune system reacts to a foreign substance.

The immune system:

- produces antibodies that identify that allergen as being harmful.
  - reacts by causing inflammation of skin, sinuses, airways, or digestive system with severity ranging from minor irritation to anaphylaxis.
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# TRIGGERS: AIRBORNE

Airborne allergens include pollen, animal dander, dust mites, and mold.



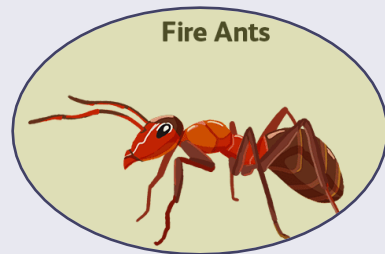
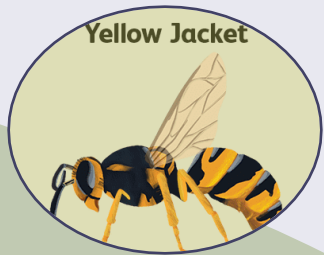
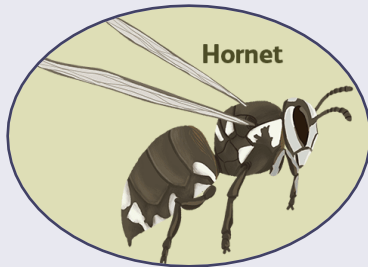
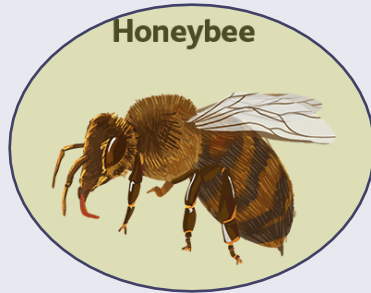
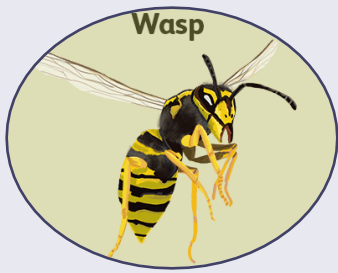
# TRIGGERS: FOOD

Food allergens include:

- Peanuts and tree nuts
- Fish and shellfish
- Cows milk
- Soy
- Eggs
- Wheat
- Sesame



# TRIGGERS: INSECT BITES OR STINGS



Insect bites or stings can trigger allergy symptoms. Common insects doing this include:

- Wasps
- Bees
- Hornets
- Yellow jackets
- Ants

# TRIGGERS: MEDICATIONS

Medications can trigger allergies, these include:

- Antibiotics such as penicillin and sulfa
- NSAIDs such as ibuprofen, naproxen
- Aspirin
- Insulin
- Antiseizure drugs such as carbamazepine and lamotrigine



# TRIGGERS: LATEX



Latex can trigger allergy symptoms, especially by direct contact. Many everyday products contain latex including:

- Balloons
- Erasers
- Condoms and diaphragms
- Medical gloves and rubber household gloves
- Catheters
- Dental appliances (wedges, orthodontic rubber bands)
- Adhesive bandages, tape
- Foam mattresses and pillows
- Also, foods such as bananas and avocados can cause a reaction.



# TRIGGERS: EXERCISE

- ❖ An exercise-induced allergic reaction can occur during or after exercise.
- ❖ For some people, symptoms surface after eating a particular food before or after physical activity especially wheat or shellfish.
- ❖ Vigorous forms of exercise are more often associated with it but even walking or doing yard work can trigger the response.
- ❖ This allergy is still being studied but can cause symptoms such as flushing, wheezing, hives, swelling, and nausea.







# SYMPTOMS

Different allergens can cause similar symptoms.

Allergic rhinitis can cause:

- Nose: discharge, congestion, sneezing, itching, post-nasal drip, loss of taste, and facial pressure or pain
- Eyes: itching, gritty feeling, redness, swelling
- Ears: congestion, popping, itching
- Sleep: mouth breathing, frequent awakening, fatigue

A food allergy can cause:

- Mouth tingling, swelling of lips, tongue, throat, and face
- Hives, anaphylaxis

An insect sting allergy can cause:

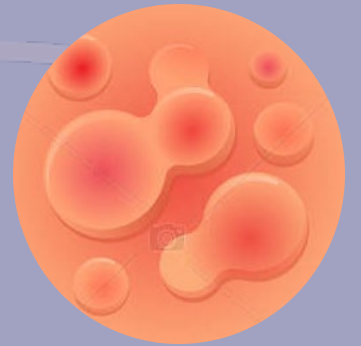
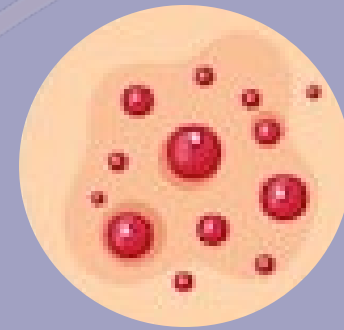
- Swelling at the sting site, itching, hives
- Cough, chest tightness, wheezing, shortness of breath
- Anaphylaxis

A drug allergy can cause:

- Hives, rash, itchy skin
- Facial swelling, wheezing; anaphylaxis

# SYMPTOMS: SKIN

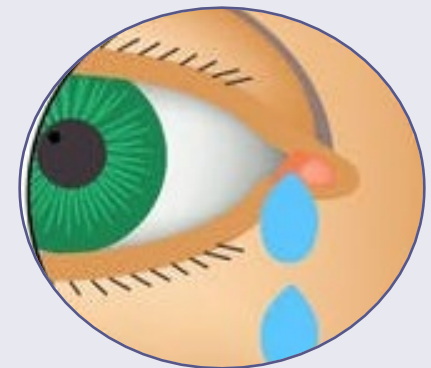
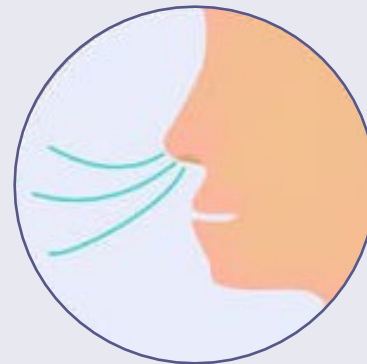
Allergens can cause skin symptoms of rash, hives, swelling, itching, warmth, and redness.



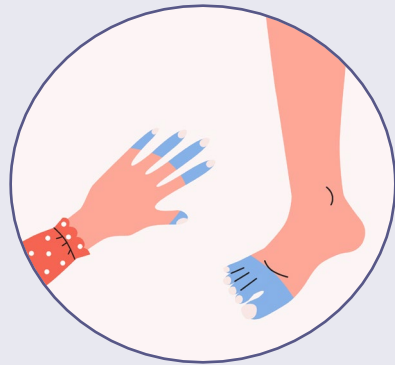
# SYMPTOMS: RESPIRATORY

Respiratory symptoms include:

- Coughing, wheezing
- Shortness of breath
- Chest pain or tightness
- Throat tightness
- Trouble swallowing
- Hoarse voice
- Nasal congestion, runny nose
- Sneezing
- Red, itchy, or watery eyes



# SYMPTOMS: CARDIOVASCULAR



Heart symptoms include:

- Dizziness, lightheadedness
- Cyanosis – pale, blue color
- Weak pulse
- Fainting
- Shock
- Loss of consciousness

# SYMPTOMS: NEUROLOGICAL



Neurological symptoms include:

- Anxiety
- Feeling of impending doom

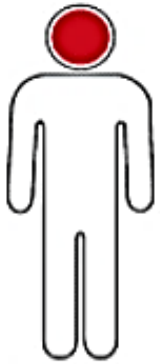
# SYMPTOMS: GASTROINTESTINAL

Gastrointestinal symptoms include:

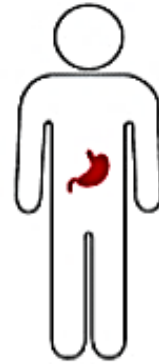
- Nausea and vomiting
- Stomach pain/cramps
- Diarrhea



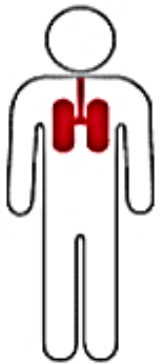
# SYMPTOMS OF ANAPHYLAXIS: THINK “FAST”



**Face**  
itching,  
redness,  
swelling



**Stomach**  
pain,  
vomiting,  
diarrhea,  
nausea



**Airway**  
trouble breathing,  
coughing, wheezing,  
trouble swallowing  
and speaking



**Total body**  
hives, rash,  
weakness, paleness,  
sense of doom, loss  
of consciousness

**Other:** dizziness, pale/blue colour

# TREATMENT



There are several products that help reduce allergy symptoms. These include:

- Nasal irrigation to rinse out allergens and irritants and relieve symptoms.
- Nasal glucocorticoids such as Flonase.
- Antihistamines.



# TREATMENT: TOPICAL DECONGESTANTS



Topical decongestant nasal sprays may temporarily relieve congestion.

Use should be limited to no more than 2-3 days because of **REBOUND SYNDROME**:

Rebound syndrome occurs after 72 hours of use of topical decongestants such as Afrin.

Symptoms of congestion and drainage that the decongestant was treating return and are possibly worse (rebound effect).

# TREATMENT: ORAL DECONGESTANTS



Oral decongestants are not very effective in controlling or treating congestion.

Oral decongestants are combined with antihistamines which increase blood pressure and make it difficult to urinate.

The purchase of pseudoephedrine-containing cold medications is limited due to their use in the manufacture of amphetamine drugs.

Decongestants can cause nosebleeds, agitation, insomnia, and hypertension.

# TREATMENT - OTHERS

## Antihistamines:

- Relieve itching, sneezing, and runny nose but not congestion.
- There are products that are less sedating than Benadryl.



## Leukotriene modifiers (Singulair):

- Singulair is currently not recommended except in severe cases due to neuropsychiatric side effects such as agitation, aggression, and sleep disturbances as well as suicidal thoughts and behavior.

## Allergy Shots:

- Injections used to reduce sensitivity to allergens.
- Usually given weekly for several months, then monthly.
- Carry a small risk of severe allergic reaction that usually occurs within 30 minutes of injection.
- Long-term therapy and benefits may lessen when stopped.



# EMERGENCY TREATMENT: EPIPEN

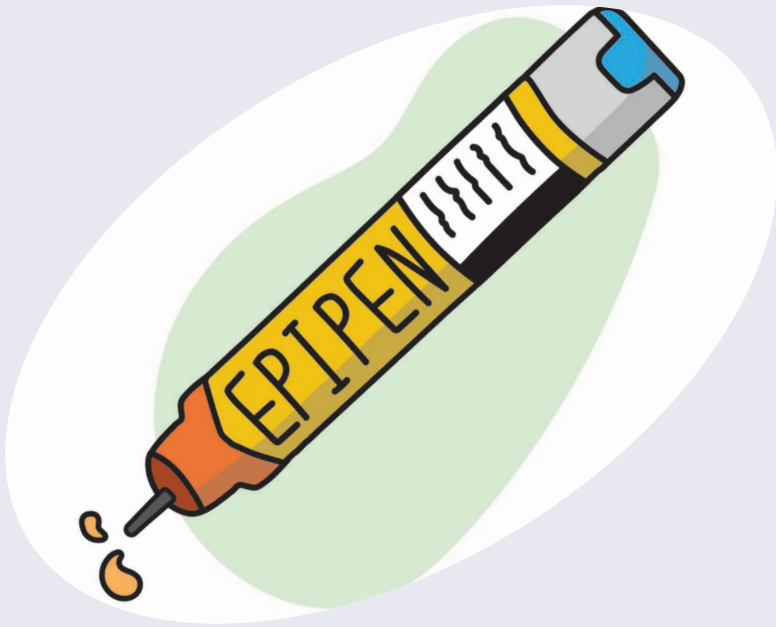
Because an anaphylaxis is a life-threatening emergency, DSPs can and should give epinephrine injections with an EpiPen. This does require an order from the medical provider.

Epinephrine works by :

- relaxing muscles
- reversing swelling
- stimulating the heart

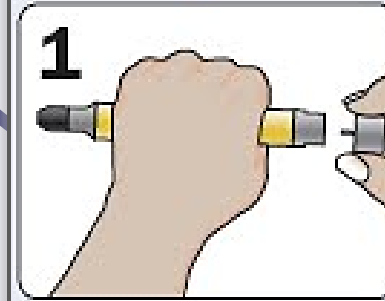
Side effects include:

- pounding heartbeat
- trembling, nervousness
- headache, nausea, dizziness
- shortness of breath

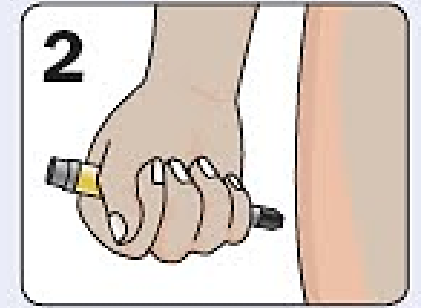


# USING AN EPIPEN

- ❖ Injection of epinephrine is generally effective in 5-10 minutes.
- ❖ If symptoms aren't improving or are worsening after 5 minutes, or if symptoms return, a second dose may be given.
- ❖ Following the injection of epinephrine, seek emergency medical attention as a second reaction to the allergen can occur within hours.
- ❖ Take used pen to hospital to show what was injected.



**1**  
Form fist around EpiPen® and PULL OFF GREY SAFETY CAP.



**2**  
PLACE BLACK END against outer mid-thigh (with or without clothing).



**3**  
PUSH DOWN HARD until a click is heard or felt and hold in place for 10 seconds.



**4**  
REMOVE EpiPen® and DO NOT touch needle. Massage injection site for 10 seconds.

# PREVENTION

Avoid known triggers:

Ask about ingredients such as nuts.

For insect allergies:

- Take precautions outdoors with clothing and footwear.
- Beware that bees often get into beverage containers.
- Be aware that perfumes and colognes may attract insects.

Wear a medical alert bracelet.



# ALL ABOUT ALLERGIES



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Thank you  
Jean Justad, MD  
Medical Director DDP  
2024

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