OREGON HEALTH AUTHORITY

August 2026

Treatment of Severe Allergic Reaction

Outline

1. State Laws and Training Program
2. Allergic Reactions and Allergens
3. Management of Anaphylaxis
4. Preparing for and Preventing Anaphylaxis

Addendum: School Medication Administration

1. State Laws and Training Protocol

Why is This Training Important?



- Knowing what to do can save lives.
- State laws address epinephrine administration:
  - **eligibility** for training
  - **procedures** for training, obtaining epinephrine, and administering epinephrine
  - **immunity** (legal protections) of persons trained *in accordance with state laws*

  …and this training aligns with state laws.

Oregon Revised Statute (ORS) 433.800-830 Oregon Administrative Rule (OAR) 333-055

State Laws



Responding with epinephrine

- Oregon state law allows **trained individuals** to administer epinephrine to any person “suffering from a **severe allergic response** to an insect sting or other allergen.”

- “The decision to give epinephrine should be based upon recognition of the signs of a **systemic allergic reaction**…”



State Laws

Eligibility for training

- must be at least 18 and reasonably expect contact with other people for work/volunteering



Procedures

After training, the instructor issues a Statement of Completion and the **Authorization to Obtain Epinephrine**



- If signed by physician or nurse practitioner, the *Authorization* allows the pharmacist to generate a prescription
- If a pharmacist won't honor the *Authorization* as a prescription, call or email the contact listed in the Manual, or cite (ORS) 433.800-830 and (OAR) 333-055



State Laws

Obtaining Epinephrine

- The *Authorization to Obtain*
  - allows the holder to obtain a 2-pack of epinephrine auto-injectors
  - can be used for refills 4 times
  - automatically expires 3 years after the training date





- The cost
  - cannot be billed to insurance
  - may be reimbursed (verify with employer)
  - can be expensive ($500 +)



State Laws: True or False?

Once you complete this training, Oregon law permits you to…

1. give epinephrine for **suspected severe allergic response** **True/False**

2. give epinephrine to someone having an **asthma attack** **True/False**

3. only give epinephrine if a person has a **known exposure** to an allergen, such as bee sting or food allergy **True/False**

4. give epinephrine to others for **the rest of your life** **True/False**

State Laws: True or False?

Once you complete this training, Oregon law permits you to…

1. give epinephrine for **suspected severe allergic response** **True**

State Laws: True or False?

Once you complete this training, Oregon law permits you to…

1. give epinephrine for **suspected severe allergic response** — **True**
2. give epinephrine to someone having an **asthma attack** — **False**

State Laws: True or False?

Once you complete this training, Oregon law permits you to…

1. give epinephrine for **suspected severe allergic response** — **True**
2. give epinephrine to someone having an **asthma attack** — **False**
3. only give epinephrine if a person has a **known exposure** to an allergen, such as bee sting or food allergy — **False**

State Laws: True or False?

Once you complete this training, Oregon law permits you to…

1. give epinephrine for **suspected severe allergic response** — **True**
2. give epinephrine to someone having an **asthma attack** — **False**
3. only give epinephrine if a person has a **known exposure** to an allergen, such as bee sting or food allergy — **False**
4. give epinephrine to others for **the rest of your life** — **False**

State Laws

Once you complete this training, Oregon law permits you to…

1. give epinephrine for **suspected severe allergic response**

2. give epinephrine to someone having an **signs and symptoms of severe allergic response**

3. give epinephrine if a person has **signs and symptoms of severe allergic response** even if you don't know the cause

4. give epinephrine to others **3 years at most (then re-train)**

2. Allergic Reactions and Allergens

Severe Allergic Response

This section will focus on recognizing **severe allergic response**

… which may also be called **anaphylaxis** or **systemic allergic reaction.** These terms are considered functionally the same.

What might **severe allergic response** look like?

Details in a moment.



Allergen

- A protein not normally found in the body
- Exposure may cause an allergic response
- Examples of allergens
  - Insect stings
  - Food
  - Medications
  - Latex
  - Other









Severe Allergic Response

A life-threatening emergency

- **without treatment, it is fatal!**

Signs and symptoms may

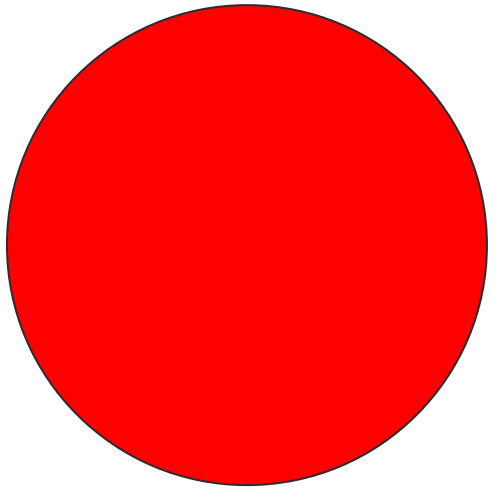
- extend **past one side** of the body
- involve **multiple areas or systems**
- impact **vital organs** (breathing, circulation, brain function)
  – *unless treated*

Signs may appear and progress rapidly

- But can also appear later, from minutes to hours

We'll review specific examples shortly.

Severe allergic response (anaphylaxis)



Lesser Allergic Responses

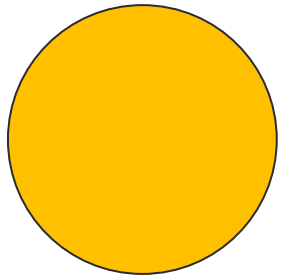
Exaggerated allergic reaction

- Signs and symptoms may
  - involve one system (not full body response)
  - be limited to the affected arm or leg and/or stay on one side of the body

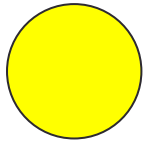
Normal reaction

- Exposure to an allergen results in
  - no signs, or expected, minimal response

Exaggerated response



Normal response



Signs of Severe Allergic Response

A person may have only one sign, or more than one. May include:

- ❑ **Breathing/respiratory changes**
- ❑ **Circulation changes**
- ❑ **Swelling**
- ❑ **Skin changes**
- ❑ **Abdominal/digestive changes**
- ❑ **Anxiety**



What signs and symptoms might be present, in each of these categories?



Signs of Severe Allergic Response

Breathing: working harder to breath; wheezing sounds with breathing

Circulation: rapid or weak pulse; dizziness or fainting (loss of consciousness); pale bluish, greyish, or dusky tint to skin, especially on fingertips or inside eyelids (*sign of low oxygen*)

Swelling: puffy eyes, lips, face, or tongue; difficulty swallowing, hoarse voice, or coughing (*signs of throat swelling*)

Skin: hives (blotchy spots) widespread or on the torso and neck; itching or burning, especially on chest or face; sweating or flushed; pale (*see Circulation*); swelling (*see Swelling*)

Abdominal: pain, nausea, vomiting, incontinence, diarrhea

Anxiety: fidgety, tense, fearful; may have sense of doom



Signs of Severe Allergic Response

A person may have only one sign, or more than one. May include:

- ❑ **Breathing/respiratory changes**
- ❑ **Circulation changes**
- ❑ **Swelling**
- ❑ **Skin changes**
- ❑ **Abdominal/digestive changes**
- ❑ **Anxiety**



- Signs related to breathing and circulation can become life-threatening very quickly.
- Skin changes can also be strong sensations and visual cues.

Severe Allergic Response Red Flags

Time of onset: the faster the onset of signs from exposure, the higher risk for severe symptoms and death.

- Severe reactions can also have delayed onset.



Prior history: A person's history of allergy or sensitivity may make them vulnerable.

- Severe reactions also occur with no history.



Asthma: Persons with asthma may have an increased risk for anaphylaxis.



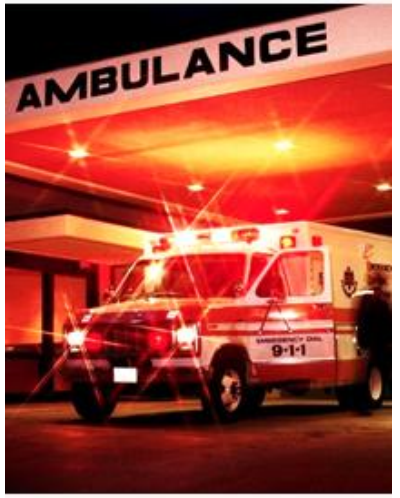
Recognize and Respond Quickly

The **faster the onset** of signs from exposure, the **higher risk** for severe symptoms and death.

One or more signs of anaphylaxis require immediate injection of **epinephrine.**

Call 9-1-1.





Causes of Anaphylaxis

- The decision to give epinephrine should be based on **signs and symptoms.**



You **do not** need to determine the cause.

- Knowing the cause may help planning to avoid the allergen.
- Many cases have **no identified cause.**



Allergens: Insect Venom

Insect stings

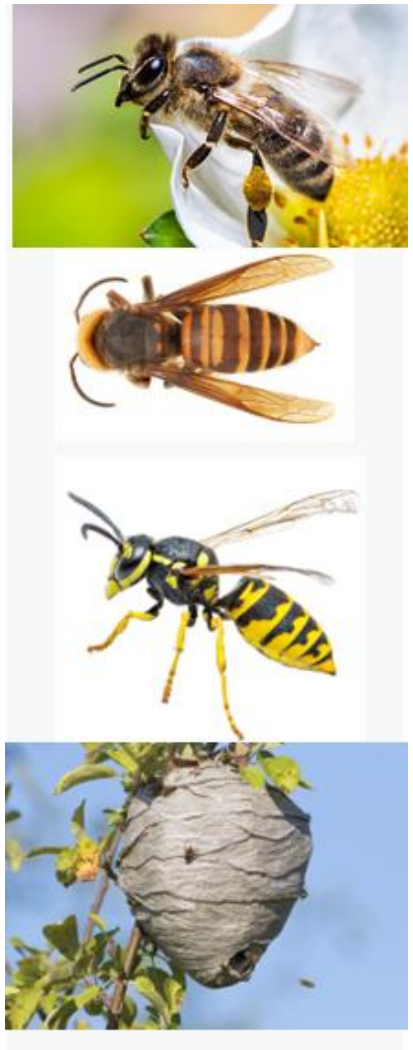
10-20% of all cases of anaphylaxis

Typical offenders

- Yellow jackets
- Honeybees
- Wasps
- Hornets

Special Consideration: Multiple Stings

- High levels of venom in the body can cause a toxic reaction, especially 10 or more stings
- Any type of response may occur from localized to severe
- Monitor closely
- Be prepared to give epinephrine
- Call 9-1-1



Allergic Reaction Severity: Insect Stings

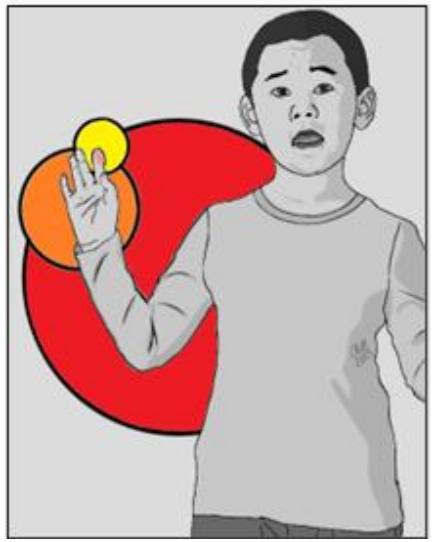


Normal reaction

- swelling, redness, pain, itching
- may grow to the size of a quarter
- stays confined to sting site

Localized allergic reaction

- swelling, redness, pain, itching
- grows to an area larger than a quarter
- may extend over a major joint



Anaphylaxis

- Reaction spreads to multiple areas or full body, such as widespread hives, nausea, or difficulty breathing
- If untreated, changes to airway, breathing, and circulation may occur

Allergens: Food and Drink

Food Allergies
35-55% of all cases of anaphylaxis

Most common food allergens

- Peanuts
- Tree nuts (walnuts, hazelnuts, cashews, etc.)
- Fish or crustaceans (shellfish)
- Milk
- Eggs

Other food allergens

- Soy
- Fruits especially strawberry, banana, or citrus
- Many others



Allergic Reaction Severity: Food and Drink

Normal reaction

- No reaction (normal digestion)



Food sensitivity or intolerance

- Usually confined to the digestive system
- Often **dose dependent:** worse with more exposure



Anaphylaxis

- Reaction spreads to multiple areas or full body, such as widespread hives, nausea, or difficulty breathing
- Often **not** dose dependent: occurs with any amount of exposure
- If untreated, changes to airway, breathing, and circulation may occur

Allergens: Medications, Latex

Medications

Roughly 10% of people have a medication allergy

Any medication, any route. Most common:

- Antibiotics
- non-steroidal anti-inflammatory drugs (NSAIDs)
- acetaminophen (Tylenol, Excedrin, other products)

Special consideration: side effects versus allergies







Latex

Rare in general population, but common in high-exposure groups such as healthcare workers and medically fragile individuals

- found in products that use natural rubber latex: certain medical supplies; balloons; art supplies



Allergic Reaction Severity: Latex

Normal reaction

- No reaction



Localized allergic reaction

- Swelling, redness, pain, itching
- Limited to area of contact such as rash on hands

Give Epinephrine

Anaphylaxis

- Reaction spreads to multiple areas or full body, such as widespread hives, nausea, or difficulty breathing
- If untreated, changes to airway, breathing, and circulation may occur



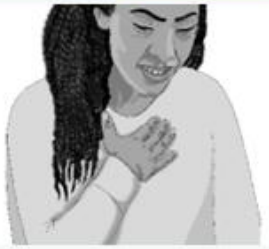
Other Causes and Situations

Severe responses requiring epinephrine may also be due to:



Cold urticaria

- hives and/or breathing difficulty especially after sudden temperature change



Exercise-induced anaphylaxis

- heightened immune response with vigorous activity



Idiopathic anaphylaxis

- “idiopathic” means “unknown cause”



Remember: many cases have no identified cause.



Allergic Reactions and Allergens

Review

Scenario #1: Bee Sting

- A 15-year-old was stung by a bee on his calf
- An area the size of a nickel is red and swollen on his calf
  - No swelling or redness found anywhere else
- No hives are seen
- He tells you this is the first time he has ever been stung



Is this person suffering from **severe allergic response** or at immediate risk for anaphylaxis?

Scenario #1 Debrief

Normal reaction

- The signs did not expand beyond the size of a quarter

What is his risk for developing anaphylaxis?

- Appears to be a low risk at this point

Recommended action:

- Follow protocol for treating normal reaction to insect stings (slide 36)

Scenario #2: Hives

- An 8-year-old has hives on her neck and chest
  - She is scratching at them
- She appears to be breathing normally
- She ate a cookie 30 minutes ago
  - A friend gave it to her
- She has a history of allergies to peanuts
  - She has an EpiPen Jr.



Is this person suffering from **severe allergic response** or at immediate risk for anaphylaxis?



Scenario #2 Debrief

Severe allergic response

- The signs are widespread or entire body (hives on her neck and chest)

What is her risk of anaphylaxis?

- High risk
- She has a prescription for epinephrine (EpiPen Jr.).
- This tells you that her peanut allergy is severe

Should you administer epinephrine?



Scenario #2 Debrief

When should a person with a history of allergic rection be given epinephrine?

- Persons with a history of anaphylaxis have strong likelihood of developing it again
- Epinephrine should be given when **any signs** of severe allergic reaction appear

Recommended action:

- Administer epinephrine and call 9-1-1

Scenario #3: Wasp Nest

- An elementary school student tells you that another child was poking at a wasp nest with a stick
- The child was stung in the face, near the mouth
- The child who was stung is screaming “It hurts!” repeatedly.
- The child has a swollen upper lip and cheek



Is this person suffering from **severe allergic response** or at immediate risk for anaphylaxis?



Scenario #3 Debrief

Localized allergic reaction

- Swelling is bigger than a quarter but correlates with the sting locations

What is the child's risk for developing anaphylaxis?

- Appears low risk
- Sting location may increase risk of breathing difficulty related to swelling

Recommended action:

- Seek medical attention due to the sting location.
- In the meantime, follow protocol for treating normal reaction to insect stings (slide 36)
- Monitor the child. Be prepared to administer epinephrine if the child develops signs of severe reaction

Scenario #4: Adult Coworker

- A colleague directs you to help a 24-year-old coworker
- His lips are swollen
- He is struggling to breathe
  - You hear wheezing sounds
- He feels dizzy and wants to pass out
- He also feels like he is going to throw up



Is this person suffering from **severe allergic response** or at immediate risk for anaphylaxis?



Scenario #4 Debrief

Severe allergic response, anaphylaxis

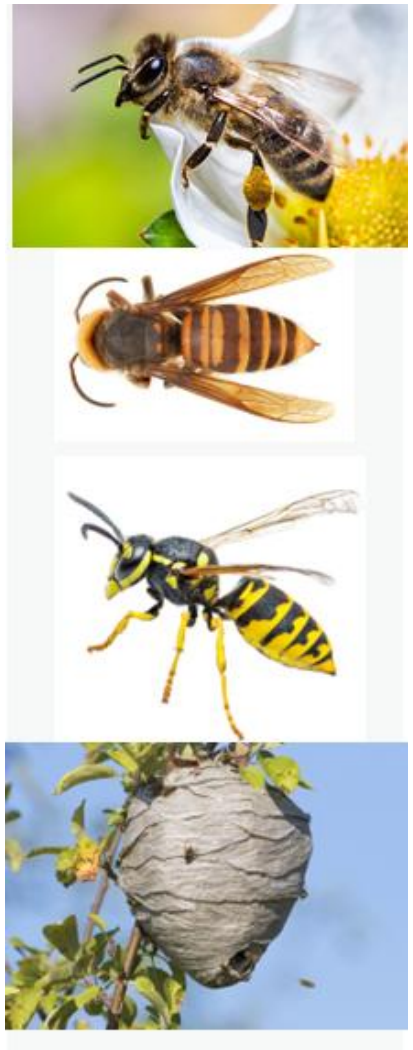
- Wheezing, dizzy, nausea, swollen lips, faint or wanting to pass out

Recommended action:

- Administer epinephrine and call 9-1-1
- Do not waste time trying to find the cause

Treatment for Normal Reactions to Insect Stings

1. Reassure and calm the person
2. Remove the stinger if present
   - Scrape it away with a fingernail or plastic card.
   - Do not squeeze the stinger, as this can release more venom into the body
   - Only honeybees leave their stinger behind
3. Cleanse the sting site
4. Apply an ice pack for local pain relief
5. Observe the person for at least 30 minutes
6. Notify the parent or guardian if applicable



Remember: fatal anaphylaxis cases often have no prior history. Monitor and respond to signs even if no history is known.

3. Management of Severe Allergic Response

Treatment Protocol 1 of 3

1. Determine if the person has symptoms of severe reaction.
   - Maintain airway and breathing – CPR if needed.

2. Have the person sit or lie down
   - Minimize walking or movement

3. Select the proper version of the epinephrine auto-injector *or use what is available*.
   - Adult, pediatric, infant/toddler
   - If no epinephrine is available, immediately call 911

4. Administer the epinephrine (See slide 53)
   - Note the time when the auto-injector was used
   - If there's enough help to do so, set a 5-minute timer





Treatment Protocol

5. Call 9-1-1 or have someone else call.
   - **Do not** leave the person unattended.
6. Check and maintain airway and breathing.
   - Administer CPR if necessary.
7. Position for safety and remove stinger if present.
8. Monitor for changes in the person's condition.
8. After 5 minutes, if the person's condition does not change or gets worse, administer a 2nd dose of epinephrine with a new auto-injector
   - around 10% of cases require a second 2nd dose
   - 2% - 3% of cases require a 3rd dose

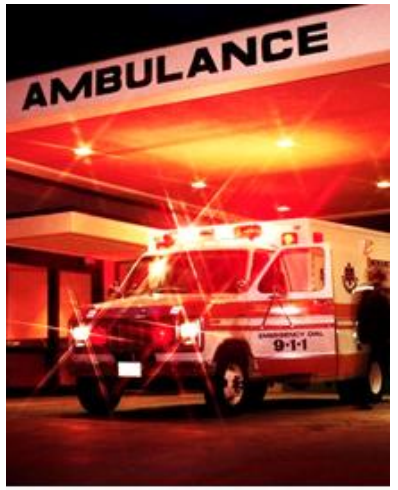


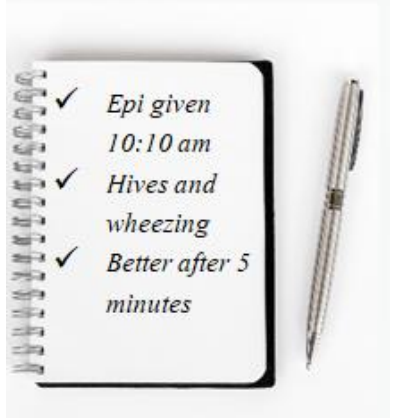
Treatment Protocol

9. When EMS arrives, advise them of the person's symptoms before and after the epinephrine was given, and dose time(s).

10. If the individual has asthma and respiratory symptoms, may use their own inhaler

11. Follow up
    - Ambulance transport is recommended.
    - Person / family should notify primary care and follow instructions.





Understanding Epinephrine

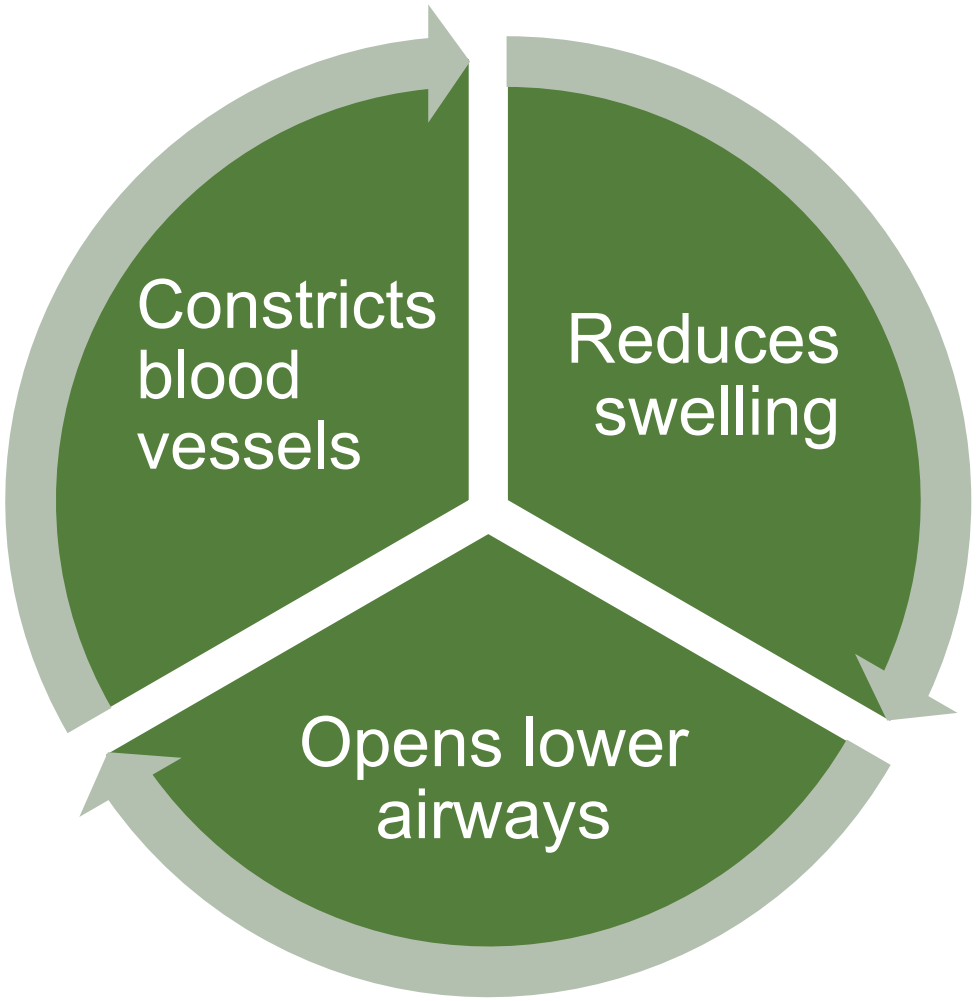
Epinephrine…

- Is a powerful drug
- Requires a prescription
- Treats the life-threatening problems of severe, systemic, allergic responses
- Is easy to give via auto-injector



Check labels. Epinephrine is available in other forms and devices. Some do not have the correct dose for anaphylaxis.

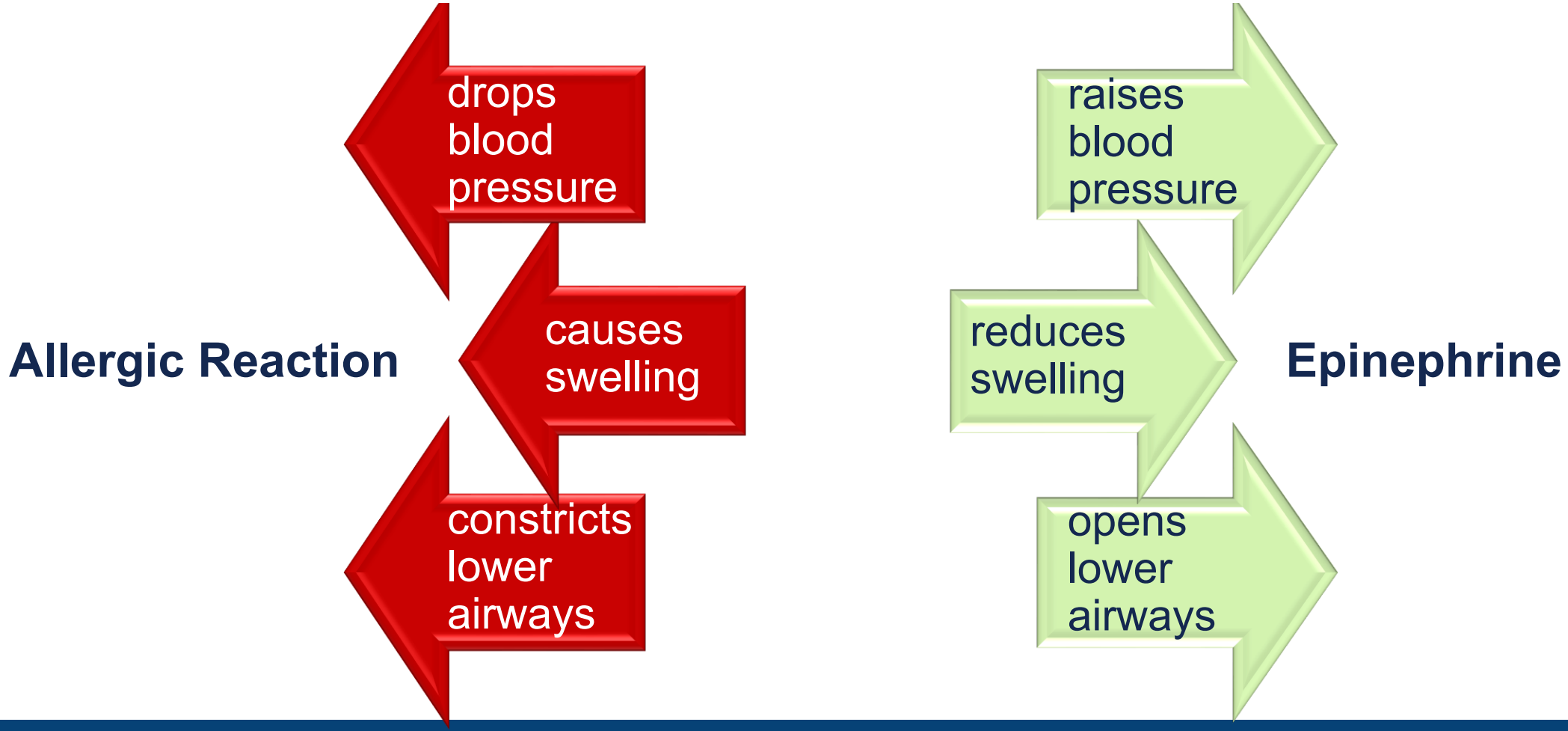
The Work of Epinephrine



Why is epinephrine effective to treat a severe allergic response?

The Work of Epinephrine

Epinephrine treats the allergic reaction!



2026 EDIT: add Epinephrine Nasal Spray

Epinephrine Auto-Injectors

- Pre-measured dose in each
- Trigger device
  - Injects epinephrine automatically
  - Automatically retracts needle (*most brands*)
- Multiple types
  - Read instructions
  - Be familiar with version(s) used in your setting









Instructions for Specific Devices

If possible, review instructions before a crisis occurs. Here are some examples.



Auvi-Q® (kaleo) Manufacturer website



EpiPen® (Mylan / Viatris) Manufacturer website



Generic for Adrenaclick® (Amneal) Manufacturer website



Generic Autoinjector (Teva) Manufacturer website

Epinephrine Auto-Injector Examples

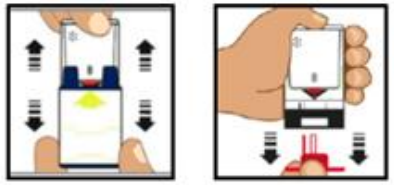
Do not delay to verify weight or age. If unknown, estimate.

Auto-injector name (and color as of 2024)	Dose	Weight range	Approximate age range
Auvi-Q® (orange/red) EpiPen® (yellow) Amneal (yellow) Teva (yellow)	0.3 mg	over 65 pounds	9-10 or older
Auvi-Q® (blue) EpiPenJr® (green) Amneal (orange) Teva (green)	0.15 mg	35-65 pounds	3 to 9-10 years
Auvi-Q (pale purple)	0.1 mg	16.5-33 pounds	Infants and toddlers



Auto-Injector General Procedures

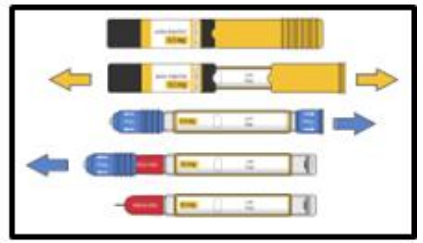
The following expands on step 4 of the Treatment Protocol: "Administer the epinephrine."



4.a) Remove the auto-injector from its protective case



4.b) Remove the safety caps of the injector



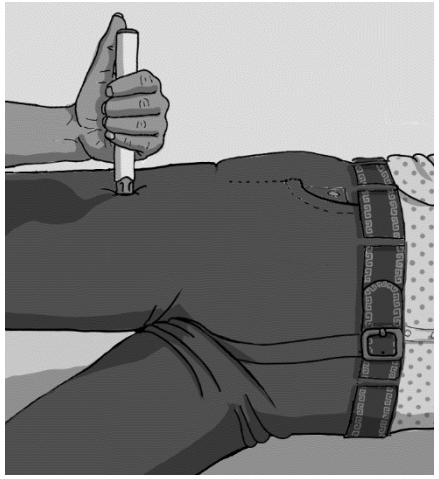
4.c) Hold the injector firmly and keep fingers away from the tips of the device



Auto-Injector General Procedures

4.d) Position the device at a 90-degree angle against the thigh

- Push hard enough to cause a click for some devices
- Push down on the trigger for other devices



4.e) Hold the device firmly against the thigh for 2-10 seconds during administration

- Consult product directions

Epinephrine may be administered through clothing via all standard auto-injector models.

Auto-Injector General Procedures

4.f) Remove the device and place it back into its protective case (when applicable)



4.g) Massage the skin at the injection site for 10 seconds

- Note the time the dose was given
- If enough help is available, set a 5-minute timer



Continue to step 5 of the Anaphylaxis Treatment Protocol

- Call 911; Protect airway; Monitor for changes; etc.

Side Effects of Epinephrine

- Rapid heart rate
- Feeling of nervousness
- Tremors
- Nausea and/or vomiting
- Sweating
- Headache
- Pale skin

Side effects usually resolve quickly with rest. They may last between 5 and 20 minutes.

Epinephrine Storage and Handling

Store in a **dark place** at **room temperature**

- Protect from extreme heat: *not in the glovebox*
- Protect from extreme cold: *not in a refrigerator*
- Protect from light: *opaque container or cabinet*



Transport in an **insulated** case or bag

- Protect from heat, cold, and light: *not in a warm pocket*



Epinephrine Disposal and Restocking

Dispose of autoinjectors properly

- If used, discard in a sharps container, or give to EMS when they arrive
- If expired or discolored, return to a pharmacy or discard in a sharps container

Check and re-stock routinely

- Check the medication → should be clear and without particles
- Check the expiration date → should not be expired
- Replace after use, or if discolored, or if approaching expiration date



Key Points of Administration

Instruction	Step 3.	Step 4.b	Step 4.d
	Select the correct dose based on approximate weight	Remove all safety caps prior to injecting.	Place the device against the outside of the thigh
Rationale			

Key Points of Administration

Instruction	Step 3. Select the correct dose based on approximate weight	Step 4.b Remove all safety caps prior to injecting.	Step 4.d Place the device against the outside of the thigh
Rationale	• It is more likely to work correctly if it's the right dose	• It won't work with the cap on!	• Large muscle, lower risk of hitting something you shouldn't

Key Points of Administration

	Step 4.e	Step 4.f	Step 4.g
Instruction	Keep firm contact between the auto-injector and the thigh during administration. Remove the device after 3-10 seconds depending on device instructions.	Place the used auto-injector back into its case, if applicable.	Massage the injection site
Rationale			

Key Points of Administration

	Step 4.e	Step 4.f	Step 4.g
Instruction	Keep firm contact between the auto-injector and the thigh during administration. Remove the device after 3-10 seconds depending on device instructions.	Place the used auto-injector back into its case, if applicable.	Massage the injection site
Rationale	• Ensures medication is fulling injected. • It takes time for the liquid to flow out of the syringe!	• Reduces risk of needle stick, in case the needle didn't fully retract. • DO NOT hold the case while re-capping; should rest on a surface until tip of device covered.	• Encourages faster absorption of epinephrine.

4. Preparing for and Preventing Severe Allergic Response

Corresponds to Training Manual Section VI

Prevention

Plan ahead to reduce the risk of severe allergic response.

Example practices:

- **Insect stings:** avoid flowering plants, fragrant lotions, outdoor trash, and exposed skin including walking outside without shoes.
- **Food allergens:** read labels on food and skin care products; inform food staff of known allergens; avoid cross-contamination such as on cutting surfaces or utensils; encourage hand washing.

Additional allergen-specific examples are listed in Section IV of the Manual.

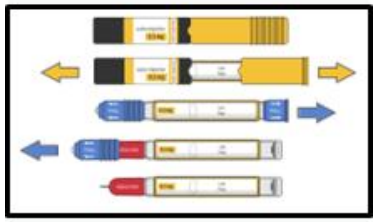


Preparation

Review local emergency response plans at least annually. Know:

- ❑**where** the epinephrine is kept
- ❑**what** to do
  - Routinely review the steps and process for all types of autoinjectors available in your setting)
- ❑**who** is trained in first aid and CPR
  - Ideally – you are!
- ❑**how** to get emergency help
  - How long does it normally take EMS to respond?
  - Where is the nearest hospital?
- ❑**when** auto injectors are replaced
  - Who to notify that a dose was used
  - Who checks expiration dates, clarity of solution



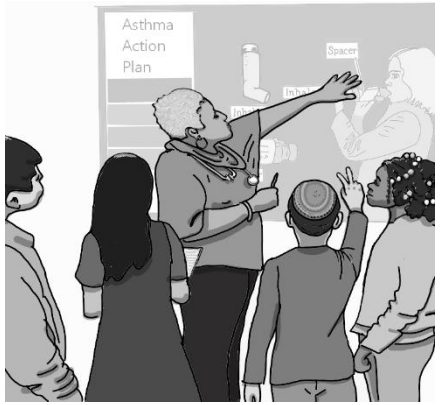




Preparation

Identify those who are at risk of severe allergic response

- People with a prescribed auto-injector
- People with a history of allergic reactions
- People with a history of asthma



Get a signed consent for emergency treatment (if applicable to your setting)

When possible, educate those at risk for allergic reactions with prevention strategies

Scenario #5: Prevention and Preparation

A group of 10-to-12-year-olds will be taking a hike in an area with meadows and forests.

They will be eating a picnic lunch together afterward.

Some of the young people require medications at lunchtime, and two of them have asthma inhalers.









What are some prevention and preparation strategies planners could use, before and during this activity?

Scenario #5 *Prevention and…* Debrief

- Identify potential allergen risks in the setting
  - Insect stings, medication allergies, food allergies, other?
- If possible, identify known allergies among the group
  - Identify individuals who may be at higher risk including those with asthma inhalers or prescribed epinephrine.
- Implement multiple strategies to reduce risk
  - Limit proximity to areas with stinging insects. Establish policies: no scented lotions, closed-toed shoes, etc.
  - Strongly discourage food sharing.
  - Ensure medications are administered correctly, only to the individuals to whom they are prescribed.
  - What else? (See Manual.)









Scenario #5 …*Preparation* Debrief

- Ensure one or more group leader is trained in
  - CPR
  - epinephrine administration
  - how to active EMS 9-1-1
- Ensure group leaders have epinephrine available
  - Ideally, at least 2 adult doses and 2 pediatric doses
- Know the symptoms of concern
- Know how to respond quickly if any individual displays signs or symptoms of severe allergic response
- What else?






Summary

Preparation saves lives!

- Maintain your skills.
  - Know the signs of severe allergic response.
  - Take a first aid / CPR class.
  - Keep training current and be ready to respond quickly.

- Know your local emergency plan
  - ❑**where** are doses
  - ❑**what** steps to follow
  - ❑**who** knows CPR
  - ❑**how** to contact EMS
  - ❑**when** doses are replaced

- Prevent or minimize exposure to allergens with risk assessment and planning.

Summary

- Severe allergic response is a life-threatening event
- Epinephrine is the life-saving treatment
- Recognizing signs and symptoms is critical
  - A person could have one sign or many signs.

Do not hesitate to give epinephrine!



Demonstrations



Knowledge Verification

Medication Administration Addendum

For School Personnel

Learning a Lifesaving Treatment Protocol
Who Have Not Completed Annual Medication Administration Training

Outline

(1) Medication Storage, Accessibility, and Availability
(2) Special Consideration: Student Self-Carry
(3) Medication Handling and Disposal
(4) Medication Administration “Rights”
(5) During an Emergency
(6) After an Emergency
(7) Record Keeping
(8) Reporting a Problem or Error
(9) Knowledge Assessment

Required content for Medication Administration training for school personnel is outlined in state law. [OAR 581-021-0037]. *Most required topics are covered in Lifesaving Treatment Protocols training. This addendum adds school-specific details.*

Storage, Accessibility, Availability



- Original containers: never repackage.
- Safety: ensure appropriate signage; if locked, key protocols
- Refrigeration: follow label instructions.
- Monitoring: medication in stock, non-expired doses
- Verify locations: rooms, go-bags, self-carry
- Predictable events: staff absence, field trips





Special Consideration: Student Self-Carry

Medications may be self-carried by a student when policies permit

- See OAR 581-021-0037 and district protocol

Self-carry still requires emergency assistance

- Some students may self-administer; be prepared to assist
- Call EMS and notify the school nurse, parent/guardian, building administrator, and others per school protocol
- Monitor for changes and repeat treatments per specific protocol



Handling and Disposal



Standard precautions: handwashing, cleaning



Follow process & precautions for specific medications and routes

Expired doses, end of year, *used auto-injectors*:

- Return to family and/or school personnel witness disposal
- Local pharmacy, EMS partners



Medication Administration “Rights”

- Right **person**
- Right **medication** (type, reason)
- Right **time** (schedule, frequency)
- Right **route** (site, method)
- Right **dose**
- Right **documentation** (and communication)



During an Emergency

- Emergency impacting school (fire drill, lockdown)
  - “Go-bag”; Grab-and-go plan for medications
- Emergency related to individual student
  - Students at risk should have Emergency Care Plan (ECP)
  - Designated school personnel respond, treat
  - Follow ECP if available
  - After initiating emergency care, notify school nurse, parent/guardian, and other emergency response staff per local protocol.
    - Who should be notified in your setting(s)?



After an Emergency



- Verify required actions, your role in monitoring, reporting, follow-up.
  - The parent/guardian should consult the student's primary care provider.
  - If a student-specific dose was used, the parent/guardian is responsible for obtaining replacement medication dose(s).

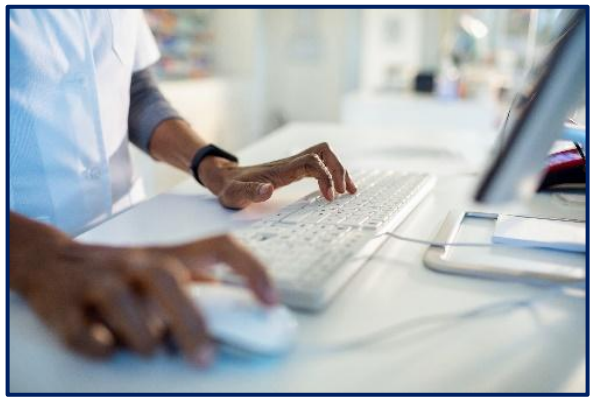








Record Keeping



- Document the following during/after an emergency:
  - Symptoms recognized
  - Dose, time, and site of injection
  - Time that EMS was called and arrived
  - Transfer of care to parent/guardian or EMS
  - Other information required by setting
- Keep information confidential
  - Exceptions for school personnel with “legitimate education interest” and emergencies (911 / EMS, public health)
- Retain records per district and state policy



Reporting Problem or Error

- Timely and accurate reporting is critical!

“We don’t get in trouble for making mistakes, we get in trouble for hiding them.”

- Verify policy and process for your school setting.



Reporting a Problem or Error: SBAR

S - Situation

- What happened? What is happening?

B - Background

- What is the usual condition?
- What contributed to this issue?

A - Assessment: observed outcomes

- Is this causing specific problems?
- Does the student have new signs or symptoms?

R - Recommendations and requests

- Do you need support?
- Do you have suggestions to prevent future problems?

For Your School Setting



- **What** signs and symptoms indicate an emergency?
- **How** do you activate school emergency response?
- **Who** calls 911 during an emergency?
- **Who** alerts the school nurse, response team, building administrators?
- **Who** notifies parent/guardian?
- **What** are your responsibilities after an event (notifications, etc.)?
- **When (to whom)** are you permitted to share information?
  - Which members of care team, teachers, coaches, etc.
  - Which emergency situations

Medication Administration Addendum

Knowledge Verification Options

References

Adams, K. E., Tracy, J. M., & Golden, D. B. K. (2022). Anaphylaxis to Stinging Insect Venom. *Immunology and allergy clinics of North America*, *42*(1), 161–173. https://doi.org/10.1016/j.iac.2021.09.003

Anagnostou K. (2018). Anaphylaxis in Children: Epidemiology, Risk Factors and Management. *Current pediatric reviews*, *14*(3), 180–186. https://doi.org/10.2174/1573396314666180507115115 Accessed at https://www.eurekaselect.com/article/90217

Baseggio Conrado, A., Patel, N., & Turner, P. J. (2021). Global patterns in anaphylaxis due to specific foods: A systematic review. *The Journal of allergy and clinical immunology*, *148*(6), 1515–1525.e3. https://doi.org/10.1016/j.jaci.2021.03.048

Bilò, M. B., Martini, M., Tontini, C., Corsi, A., & Antonicelli, L. (2021). Anaphylaxis. *European annals of allergy and clinical immunology*, *53*(1), 4–17. https://doi.org/10.23822/EurAnnACI.1764-1489.158

Blumenthal, K. G., Peter, J. G., Trubiano, J. A., & Phillips, E. J. (2019). Antibiotic allergy. *Lancet (London, England)*, *393*(10167), 183–198. https://doi.org/10.1016/S0140-6736(18)32218-9

Bright, D. M., Stegall, H. L., & Slawson, D. C. (2023). Food Allergies: Diagnosis, Treatment, and Prevention. *American family physician*, *108*(2), 159–165. Accessed at https://www.aafp.org/pubs/afp/issues/2023/0800/food-allergies.html

Centers for Disease Control and Prevention (2019). QuickStats: Percentage of Children Aged <18 Years with a Food or Digestive Allergy in the Past 12 Months, by Age Group — National Health Interview Survey, 2007–2018. *MMWR Morb Mortal Wkly Rep,* 68:831. DOI: http://dx.doi.org/10.15585/mmwr.mm6838a6external icon.

References

Dilber, D. H., Ozceker, D., & Terzi, O. (2022). Drug Allergy in Children: What is the Actual Frequency of Drug Allergies?. *Sisli Etfal Hastanesi tip bulteni*, *56*(4), 552–558. https://doi.org/10.14744/SEMB.2022.65642

Dribin, T. E., Motosue, M. S., & Campbell, R. L. (2022). Overview of Allergy and Anaphylaxis. *Emergency medicine clinics of North America*, *40*(1), 1–17. https://doi.org/10.1016/j.emc.2021.08.007. Accessed at https://www.sciencedirect.com/science/article/abs/pii/S0733862721000808?via%3Dihub

Foong, R. X., Patel, N. B., Turner, P., Roberts, G. C., & Fox, A. T. (2023). Preventing food allergy fatalities. *Archives of disease in childhood*, *108*(9), 698–702. https://doi.org/10.1136/archdischild-2022-324911

Golden, D. B. K., Wang, J., Waserman, S., Akin, C., Campbell, R. L., Ellis, A. K., Greenhawt, M., Lang, D. M., Ledford, D. K., Lieberman, J., Oppenheimer, J., Shaker, M. S., Wallace, D. V., Abrams, E. M., Bernstein, J. A., Chu, D. K., Horner, C. C., Rank, M. A., Stukus, D. R., Collaborators, … Wang, J. (2024). Anaphylaxis: A 2023 practice parameter update. *Annals of allergy, asthma & immunology : official publication of the American College of Allergy, Asthma, & Immunology*, *132*(2), 124–176. https://doi.org/10.1016/j.anai.2023.09.015

Gulen, T., & Akin, C. (2021). Idiopathic Anaphylaxis: a Perplexing Diagnostic Challenge for Allergists. *Current allergy and asthma reports*, *21*(2), 11. https://doi.org/10.1007/s11882-021-00988-y

Gupta, R. S., Warren, C. M., Smith, B. M., Jiang, J., Blumenstock, J. A., Davis, M. M., Schleimer, R. P., & Nadeau, K. C. (2019). Prevalence and Severity of Food Allergies Among US Adults. *JAMA network open*, *2*(1), e185630. https://doi.org/10.1001/jamanetworkopen.2018.5630

References

Hicks, A., Palmer, C., Bauer, M., & Venter, C. (2021). Accidental ingestions to known allergens by food allergic children and adolescents. *Pediatric allergy and immunology : official publication of the European Society of Pediatric Allergy and Immunology*, *32*(8), 1718–1729. https://doi.org/10.1111/pai.13573

Kessler, C., Edwards, E., Dissinger, E., Sye, S., Visich, T., & Grant, E. (2019). Usability and preference of epinephrine auto-injectors: Auvi-Q and EpiPen Jr. *Annals of allergy, asthma & immunology : official publication of the American College of Allergy, Asthma, & Immunology*, *123*(3), 256–262. https://doi.org/10.1016/j.anai.2019.06.005

Lin C. H. (2019). Food allergy: what it is and what it is not?. *Current opinion in gastroenterology*, *35*(2), 114–118. https://doi.org/10.1097/MOG.0000000000000506

Matysiak, J., Matuszewska, E., Packi, K., & Klupczyńska-Gabryszak, A. (2022). Diagnosis of *Hymenoptera* Venom Allergy: State of the Art, Challenges, and Perspectives. *Biomedicines*, *10*(9), 2170. https://doi.org/10.3390/biomedicines10092170

Herness J, et al. (2022) Arthropod bites and stings. American Family Physician. www.aafp.org/afp.

Mikhail, I., Stukus, D. R., & Prince, B. T. (2021). Fatal Anaphylaxis: Epidemiology and Risk Factors. *Current allergy and asthma reports*, *21*(4), 28. https://doi.org/10.1007/s11882-021-01006-x

Motosue, M. S., Li, J. T., & Campbell, R. L. (2022). Anaphylaxis: Epidemiology and Differential Diagnosis. *Immunology and allergy clinics of North America*, *42*(1), 13–25. https://doi.org/10.1016/j.iac.2021.09.010

References

Muraro, A., Worm, M., Alviani, C., Cardona, V., DunnGalvin, A., Garvey, L. H., Riggioni, C., de Silva, D., Angier, E., Arasi, S., Bellou, A., Beyer, K., Bijlhout, D., Bilò, M. B., Bindslev-Jensen, C., Brockow, K., Fernandez-Rivas, M., Halken, S., Jensen, B., Khaleva, E., … European Academy of Allergy and Clinical Immunology, Food Allergy, Anaphylaxis Guidelines Group (2022). EAACI guidelines: Anaphylaxis (2021 update). *Allergy*, *77*(2), 357–377. https://doi.org/10.1111/all.15032. Accessed at https://onlinelibrary.wiley.com/doi/10.1111/all.15032.

Navalpakam, A., Thanaputkaiporn, N., & Poowuttikul, P. (2022). Management of Anaphylaxis. *Immunology and allergy clinics of North America*, *42*(1), 65–76. https://doi.org/10.1016/j.iac.2021.09.005

Neugut, A. I., Ghatak, A. T., & Miller, R. L. (2001). Anaphylaxis in the United States: an investigation into its epidemiology. *Archives of internal medicine*, *161*(1), 15–21. https://doi.org/10.1001/archinte.161.1.15

Ng AE, Boersma P. Diagnosed allergic conditions in adults: United States, 2021. NCHS Data Brief, no 460. Hyattsville, MD: National Center for Health Statistics. 2023. DOI: https://dx.doi.org/10.15620/cdc:122809. Retrieved from https://www.cdc.gov/nchs//data/databriefs/db460.pdf

Nguyen, K., Kohli, A., & Byers, M. (2022). Latex Allergy (Nursing). In *StatPearls*. StatPearls Publishing

Nguyen, S. M. T., Rupprecht, C. P., Haque, A., Pattanaik, D., Yusin, J., & Krishnaswamy, G. (2021). Mechanisms Governing Anaphylaxis: Inflammatory Cells, Mediators, Endothelial Gap Junctions and Beyond. *International journal of molecular sciences*, *22*(15), 7785. https://doi.org/10.3390/ijms22157785

References

Novembre, E., Gelsomino, M., Liotti, L., Barni, S., Mori, F., Giovannini, M., Mastrorilli, C., Pecoraro, L., Saretta, F., Castagnoli, R., Arasi, S., Caminiti, L., Klain, A., & Del Giudice, M. M. (2024). Fatal food anaphylaxis in adults and children. *Italian journal of pediatrics*, *50*(1), 40. https://doi.org/10.1186/s13052-024-01608-x

Nunes, F. A., Zanini, F., Braga, C. S., da Silva, A. L., Fernandes, F. R., Solé, D., & Wandalsen, G. F. (2022). Incidence, triggering factors, symptoms, and treatment of anaphylaxis in a pediatric hospital. *The World Allergy Organization journal*, *15*(9), 100689. https://doi.org/10.1016/j.waojou.2022.100689

Oregon Revised Statutes 339.866 Self-Administration of Medication by Students ORS 339.866

Patel, N., Chong, K. W., Yip, A. Y. G., Ierodiakonou, D., Bartra, J., Boyle, R. J., & Turner, P. J. (2021). Use of multiple epinephrine doses in anaphylaxis: A systematic review and meta-analysis. *The Journal of allergy and clinical immunology*, *148*(5), 1307–1315. https://doi.org/10.1016/j.jaci.2021.03.042

Poowuttikul, P., & Seth, D. (2021). Anaphylaxis in Children and Adolescents. *Immunology and allergy clinics of North America*, *41*(4), 627–638. https://doi.org/10.1016/j.iac.2021.07.009

Portnoy, J., Wade, R. L., & Kessler, C. (2019). Patient Carrying Time, Confidence, and Training with Epinephrine Autoinjectors: The RACE Survey. *The journal of allergy and clinical immunology. In practice*, *7*(7), 2252–2261. https://doi.org/10.1016/j.jaip.2019.03.021

References

Pouessel, G., Turner, P. J., Worm, M., Cardona, V., Deschildre, A., Beaudouin, E., Renaudin, J. M., Demoly, P., & Tanno, L. K. (2018). Food-induced fatal anaphylaxis: From epidemiological data to general prevention strategies. *Clinical and experimental allergy : journal of the British Society for Allergy and Clinical Immunology*, *48*(12), 1584–1593. https://doi.org/10.1111/cea.13287

Tedner, S. G., Asarnoj, A., Thulin, H., Westman, M., Konradsen, J. R., & Nilsson, C. (2022). Food allergy and hypersensitivity reactions in children and adults-A review. *Journal of internal medicine*, *291*(3), 283–302. https://doi.org/10.1111/joim.13422

Turner, P. J., Arasi, S., Ballmer-Weber, B., Baseggio Conrado, A., Deschildre, A., Gerdts, J., Halken, S., Muraro, A., Patel, N., Van Ree, R., de Silva, D., Worm, M., Zuberbier, T., Roberts, G., & Global Allergy, Asthma European Network (GA2LEN) Food Allergy Guideline Group (2022). Risk factors for severe reactions in food allergy: Rapid evidence review with meta-analysis. *Allergy*, *77*(9), 2634–2652. https://doi.org/10.1111/all.15318

Yu, R. J., Krantz, M. S., Phillips, E. J., & Stone, C. A., Jr (2021). Emerging Causes of Drug-Induced Anaphylaxis: A Review of Anaphylaxis-Associated Reports in the FDA Adverse Event Reporting System (FAERS). *The journal of allergy and clinical immunology. In practice*, *9*(2), 819–829.e2. https://doi.org/10.1016/j.jaip.2020.09.021. Accessed at https://www.jaci-inpractice.org/article/S2213-2198(20)30999-5/abstract

You can get this document in other languages, large print, braille or a format you prefer free of charge. Contact Dan Nielsen at Daniel.M.Nielsen@oha.oregon.gov or 971-673-1230. We accept all relay calls.

OREGON HEALTH AUTHORITY