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| **Maryland Next Gen NCLEX Test Bank Project**  **September 1, 2022** | | |
| **Case Study Topic**:  (& Stand-alone trend) | Pediatric anaphylaxis | **Author:** Josh Saylor, MSN, RN, CPN  Morgan State University |

**Case Summary**

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| An 8-year-old female with asthma and a food allergy has anaphylaxis at school and requires epinephrine administration. Learner should recognize s/s of anaphylactic reaction and implement an emergency treatment plan. |

**Objectives**

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| 1. Recognize trends and changes in client conditions and intervene as needed  2. Apply knowledge of nursing procedures when caring for a child with a medical emergency  3. Administer medications given by parental routes  4. Evaluate and document client responses to emergency interventions |

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| **Case Study Link** | **Case Study QR Code** |
| <https://umaryland.az1.qualtrics.com/jfe/form/SV_7Wl1bgDCalPn6E6> |  |
| **Trend QR Code** | **Trend Link** |
|  | <https://umaryland.az1.qualtrics.com/jfe/form/SV_0CJ1f4ygPerKVNA> |

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| 1. Ricci, S., Kyle, T., & Carman, S. (2021). *Maternity and pediatric nursing.* 4th ed. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins. |

**Case Study Question 1 of 6**

An 8-year-old girl at school is taken from the lunchroom to the nursing office with respiratory issues.

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| **Phase Sheet** | | |
| Name | Jane Smith | | | Gender | | | | F | Medical alert | Asthma |
| Age | 8 | | | | Weight | | 25 kg (55 lb) | | Allergies | Peanuts |
| **Nurses’ Notes** | | |
| 1200. Student brought to nursing office from the cafeteria after staff noticed student’s face turning red and breathing altered while eating lunch. Student reported trading a candy bar with another student. Student has increased work of breathing, increased respiratory rate, and stridor. Facial swelling, urticaria, and itching present.  1205. Vital signs obtained. | | | | | | | | | | |
| **Vital Signs** | | |
| Time | | 1205 | | | |
| Temp | | 36.5 C (97.7 F) | | | |
| P | | 120 | | | |
| RR | | 38 | | | |
| B/P | | 90/55 | | | |
| Pulse oximeter | | 94% on RA | | | |

* Drag the 2 findings that need **immediate** follow-up to the box on the right.

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| Client Findings | Top 2 Findings |
| Facial swelling | Respiratory status |
| Itching | Facial Swelling |
| Respiratory status |  |
| Blood pressure |  |
| Heart rate |  |

**Scoring Rule: 0/1**

**Rationale**: Respiratory status change is an emergent event, and facial swelling can lead to a closed airway.

**Case Study Question 2 of 6**

An 8-year-old girl at school is taken from the lunchroom to the nursing office with respiratory issues.

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| **Phase Sheet** | | |
| Name | Jane Smith | | | Gender | | | | F | Medical alert | Asthma |
| Age | 8 | | | | Weight | | 25 kg (55 lb) | | Allergies | Peanuts |
| **Nurses’ Notes** | | |
| 1200. Student brought to nursing office from the cafeteria after staff noticed student’s face turning red and breathing altered while eating lunch. Student reported trading a candy bar with another student. Student has increased work of breathing, increased respiratory rate, and stridor. Facial swelling, urticaria, and itching present.  1205. Vital signs obtained. | | | | | | | | | | |
| **Vital Signs** | | |
| Time | | 1205 | | | |
| Temp | | 36.5 C (97.7 F) | | | |
| P | | 120 | | | |
| RR | | 38 | | | |
| B/P | | 90/55 | | | |
| Pulse oximeter | | 94% on RA | | | |

* Which client findings could be consistent with a food allergy? Select all that apply.
* Blood pressure
* Facial swelling\*
* Heart rate
* Itching\*
* Respiratory status\*
* Temperature

**Scoring Rule: +/-**

**Rationale:** Temperature changes are never a result of a food allergy. Respiratory status, itching, facial swelling, blood pressure and heart rate can be indicative of a reaction. However, blood pressure and heart rate are still within the normal limits for the child’s age.

**Case Study Question 3 of 6**

An 8-year-old girl at school is taken from the lunchroom to the nursing office with respiratory issues.

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| **Phase Sheet** | | |
| Name | Jane Smith | | | | | | Gender | F |
| Age | 8 | | | Weight | | 25 kg (55 lb) | Allergies | Peanuts |
| **Nurses’ Notes** | | |
| 1200. Student brought to nursing office from the cafeteria after staff noticed student’s face turning red and breathing altered while eating lunch. Student reported trading a candy bar with another student. Student has increased work of breathing, increased respiratory rate, and stridor. Facial swelling, urticaria, and itching present.  1205. Vital signs obtained. | | | | | | | | |
| **Vital Signs** | | |
| Time | | 1205 | | |
| Temp | | 36.5 C (97.7 F) | | |
| P | | 120 | | |
| RR | | 38 | | |
| B/P | | 90/55 | | |
| Pulse oximeter | | 94% on RA | | |

Which condition is the client most likely experiencing?

* Anaphylaxis\*
* Croup
* Status asthmaticus
* Airway obstruction

**Scoring Rule: 0/1**

**Rationale:** Child has a known food allergy. Asthma could account for increased work of breathing but typically wheezing is common not stridor. Airway obstruction could be a consideration due to eating lunch and potentially choking. Croup can account for the respiratory issues the child exhibits but fails to explain the hives and itching.

**Case Study Question 4 of 6**

An 8-year-old girl at school is taken from the lunchroom to the nursing office with respiratory issues.

|  |  |  |
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| **Phase Sheet** | | |
| Name | Jane Smith | | | Gender | | | | F | Medical alert | Asthma |
| Age | 8 | | | | Weight | | 25 kg (55 lb) | | Allergies | Peanuts |
| **Nurses’ Notes** | | |
| 1200. Student brought to nursing office from the cafeteria after staff noticed student’s face turning red and breathing altered while eating lunch. Student reported trading a candy bar with another student. Student has increased work of breathing, increased respiratory rate, and stridor. Facial swelling, urticaria, and itching present.  1205. Vital signs obtained. | | | | | | | | | | |
| **Vital Signs** | | |
| Time | | 1205 | | | |
| Temp | | 36.5 C (97.7 F) | | | |
| P | | 120 | | | |
| RR | | 38 | | | |
| B/P | | 90/55 | | | |
| Pulse oximeter | | 94% on RA | | | |

* For each potential intervention, click to specify whether the intervention is appropriate or not appropriate to include in the plan of care.

|  |  |  |
| --- | --- | --- |
| Potential Intervention | Appropriate | Not appropriate |
| Breath into a bag |  | * + \* |
| Give albuterol | * \* |  |
| Give epinephrine | * \* |  |
| Perform Heimlich maneuver |  | * \* |
| Induce vomiting |  | * \* |
| Notify parents | * \* |  |

**Scoring Rule: 0/1**

**Rationale:** Child is not hyperventilating, so loss of CO2 is not a concern requiring breathing into a bag. Albuterol can be used to relieve breathing symptoms. Heimlich maneuver is not indicated as child does not have food lodged in throat. Inducing vomiting is not indicated for situation. Injectable epinephrine should be given, and parents should be notified.

**Case Study Question 5 of 6**

An 8-year-old girl at school is taken from the lunchroom to the nursing office with respiratory issues.

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| **Phase Sheet** | | |
| Name | Jane Smith | | | Gender | | | | F | Medical alert | Asthma |
| Age | 8 | | | | Weight | | 25 kg (55 lb) | | Allergies | Peanuts |
| **Nurses’ Notes** | | |
| 1200. Student brought to nursing office from the cafeteria after staff noticed student’s face turning red and breathing altered while eating lunch. Student reported trading a candy bar with another student. Student has increased work of breathing, increased respiratory rate, and stridor. Facial swelling, urticaria, and itching present.  1205. Vital signs obtained. | | | | | | | | | | |
| **Vital Signs** | | |
| Time | | 1205 | | | |
| Temp | | 36.5 C (97.7 F) | | | |
| P | | 120 | | | |
| RR | | 38 | | | |
| B/P | | 90/55 | | | |
| Pulse oximeter | | 94% on RA | | | |

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| **Emergency Orders** |
| 1. Diphenhydramine (Benadryl) 25 mg PO 2. Epinephrine injection 0.15mg/0.3mL, may give second dose in 5 minutes if no improvement 3. Albuterol 2.5mg in 3ml nebulizer treatments 4. Activate the Emergency Medical System | |

The nurse reviews the child’s emergency action plan orders.

* Click to highlight the order the nurse implement first.

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| **Emergency Orders** |
| 1. Diphenhydramine 25 mg PO 2. Epinephrine injection 0.15mg/0.3mL, may give second dose in 5 minutes if no improvement 3. Albuterol 2.5mg in 3ml nebulizer treatments 4. Activate the Emergency Medical System | |

Key

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| **Emergency Orders** |
| 1. Diphenhydramine (Benadryl) 25 mg PO 2. Epinephrine injection 0.15mg/0.3mL, may give second dose in 5 minutes if no improvement 3. Albuterol 2.5mg in 3ml nebulizer treatments 4. Activate the Emergency Medical System | |

**Scoring Rule: +/-**

**Rationale:** Injectable epinephrine is indicated as first priority due to the student’s immediate condition; child is in anaphylaxis and a PO medication is not indicated. Albuterol may be used but would not be the first priority and activating EMS would happen after the epinephrine is given.

**Case Study Question 6 of 6**

An 8-year-old girl at school is taken from the lunchroom to the nursing office with respiratory issues.

|  |  |  |
| --- | --- | --- |
| **Phase Sheet** | | |
| Name | Jane Smith | | | Gender | | | | F | | Medical alert | | Asthma |
| Age | 8 | | | | Weight | | 25 kg (55 lb) | | | Allergies | | Peanuts |
| **Nurses’ Notes** | | |
| 1200. Student brought to nursing office from the cafeteria after staff noticed student’s face turning red and breathing altered while eating lunch. Student reported trading a candy bar with another student. Student has increased work of breathing, increased respiratory rate, and stridor. Facial swelling, urticaria, and itching present.  1205. Vital signs obtained.  1210. Emergency action plan implemented. Student ID, medication order, and administration route and dose verified. Epinephrine injection given. EMS/911 called. Student placed in recovery position.  1215. Facial swelling and urticaria reduced. Breath sounds normal. Family notified. Continue to monitor student.  1230. Vital signs remain stable. Assessment completed. Facial swelling and urticaria no longer visible. Child reports “my head feels funny.” EMS and family arrived. | | | | | | | | | | | | |
| **Vital Signs** | | |
| Time | | 1205 | | | | 1215 | | | 1230 | |
| Temp | | 36.5 C (97.7 F) | | | | 36.6 C (97.9 F) | | | 36.5 C (97.7 F) | |
| P | | 120 | | | | 122 | | | 140 | |
| RR | | 38 | | | | 28 | | | 24 | |
| B/P | | 90/55 | | | | 94/60 | | | 88/56 | |
| Pulse oximeter | | 94% on RA | | | | 96% on RA | | | 97% on RA | |
| **Emergency Orders** | | |
| 1. Diphenhydramine 25 mg PO 2. Epinephrine injection 0.15mg/0.3mL, may give second dose in 5 minutes if no improvement 3. Albuterol 2.5mg in 3ml nebulizer treatments 4. Activate the Emergency Medical System | | | | | | | | | | | | |

Student was reassessed by nurse 20 minutes after epinephrine injection.

* For each finding, click to specify if the finding indicates that the client’s status has improved, declined, or is unchanged.

|  |  |  |  |
| --- | --- | --- | --- |
| Finding | Improved | Declined | Unchanged |
| Respiratory Status | * \* |  |  |
| Heart rate |  | * \* |  |
| Urticaria | * \* |  |  |
| Blood Pressure |  |  | * \* |
| Facial swelling | * \* |  |  |
| Feeling lightheaded |  | * \* |  |

**Scoring Rule: 0/1**

**Rationale:** Reassessment indicates improvement in areas of respiratory status, facial swelling, and itching which is expected with the use of epinephrine. No changes with blood pressure and temperature. Heart rate has increased, and child is reporting symptoms of lightheadedness which both could be a result of the epinephrine.

**Trend Template**

An 8-year-old girl at school is taken from the lunchroom to the nursing office with a rash and itching.

|  |  |
| --- | --- |
| **Flow Sheet** | |
| Time | 1205 | | 1215 | 1230 |
| Temp | 36.5 C (97.7 F) | | 36.6 C (97.9 F) | 36.5 C (97.7 F) |
| P | 120 | | 122 | 140 |
| RR | 38 | | 28 | 24 |
| B/P | 90/55 | | 94/60 | 88/56 |
| Pulse oximeter | 94% | | 96% | 97% |
| 1200. Student with history of asthma and food allergies is brought to nursing office from the cafeteria after staff noticed student’s face turning red and breathing altered while eating lunch. Student reported trading a candy bar with another student. Student has increased work of breathing, increased respiratory rate, and stridor. Facial swelling, urticaria, and itching present.  1205. Vital signs obtained.  1210. Emergency action plan implemented. Student ID, medication order, and administration route and dose verified. Epinephrine injection given. EMS/911 called. Student placed in recovery position.  1215. Facial swelling and urticaria reduced. Breath sounds normal. Family notified. Continue to monitor student.  1230. Vital signs remain stable. Assessment completed. Facial swelling and urticaria no longer visible. Child reports “my head feels funny.” EMS and Family arrived. | | | | |

The nurse reassesses the student at 1230.

* Complete the following sentence by choosing from the list of options.

|  |  |
| --- | --- |
| The nurse determines the client’s status is | Select |
| Improving\* |
| deteriorating |
| unchanged |
| The nurse should now | select |
| Give another dose of epinephrine  Continue to monitor student\*  Send student back to class |

**Scoring Rule: 0/1**

Rationale: The student is improving after the use of injectable epinephrine. Heart rate has increased which may be a result of the epinephrine. EMS and family have been notified so it is best for the nurse to continue to monitor situation. A second dose of epinephrine is not indicated at this time.