

Pediatric Nursing Case Study: Management of Acute Asthma Attack

Patient Profile

- **Name:** Emily Johnson
- **Age:** 7 years old
- **Gender:** Female
- **Medical History:** Diagnosed with asthma at age 4, history of multiple emergency visits for asthma exacerbations
- **Chief Complaint:** Shortness of breath, wheezing, and persistent coughing for the past two hours

Assessment and Diagnosis

Emily was brought to the emergency department by her mother, who reported that she had been experiencing **difficulty breathing, wheezing, and a tight feeling in her chest** after playing outside. She had used her rescue inhaler (Albuterol) at home, but her symptoms did not improve.

Upon initial assessment, her vital signs and clinical findings were as follows:

- **Respiratory Rate:** 32 breaths per minute (indicative of respiratory distress)
- **Heart Rate:** 120 beats per minute (tachycardia due to respiratory distress)
- **Oxygen Saturation:** 88% on room air (hypoxia)
- **Lung Sounds:** Diffuse wheezing heard bilaterally, with mild intercostal retractions
- **Peak Expiratory Flow Rate (PEFR):** 50% of her personal best, indicating a **moderate asthma exacerbation**

Based on these findings, Emily was diagnosed with an **acute asthma attack**, likely triggered by outdoor allergens.

Nursing Interventions

1. **Emergency Management**
 - **Oxygen Therapy:** Administered **oxygen via nasal cannula (2L/min)** to improve oxygenation.
 - **Bronchodilator Therapy:** Given **nebulized Albuterol (2.5 mg) and Ipratropium (0.5 mg)** every 20 minutes for three doses to open the airways.
 - **Corticosteroid Administration:** Administered **oral Prednisolone (1 mg/kg)** to reduce airway inflammation and prevent worsening of symptoms.
2. **Monitoring and Supportive Care**
 - Closely monitored **oxygen saturation, respiratory effort, and vital signs.**
 - Provided **positioning support**, encouraging Emily to sit in a semi-Fowler's position to ease breathing.
 - Used **calm reassurance** to reduce anxiety, as distress can exacerbate symptoms.
3. **Education and Discharge Planning**

- Reviewed **asthma action plan** with Emily's mother, ensuring she understood when to seek emergency care.
- Educated on **common asthma triggers** (dust, pollen, pet dander, cold air) and strategies to minimize exposure.
- Provided instructions on **correct inhaler use with a spacer** to improve medication delivery.
- Advised **medication adherence**, including daily use of a controller inhaler if prescribed.

Outcomes and Follow-Up

- After **four hours of treatment**, Emily's oxygen saturation improved to **96%**, her respiratory rate normalized, and her wheezing significantly decreased.
- She was observed for an additional hour and remained stable, allowing for **discharge with an updated asthma management plan**.
- A **follow-up appointment** was scheduled with her pediatrician in **two weeks** to reassess asthma control and consider adjustments to long-term therapy.

Conclusion

This case study highlights the **critical role of pediatric nurses** in identifying and managing acute asthma attacks. **Prompt intervention**, effective medication administration, and **family-centered education** are key components in improving outcomes and preventing future exacerbations. Through comprehensive asthma management, nurses empower both the child and caregivers to recognize warning signs and maintain **optimal respiratory health**.