

## Case Study 120

Name \_\_\_\_\_ Class/Group \_\_\_\_\_ Date \_\_\_\_\_

Group Members \_\_\_\_\_

### Scenario

L.S. is a 7-year-old who has been brought to the emergency department (ED) by his mother. She immediately tells you he has a history of ED visits for his asthma. He uses an inhaler when he wheezes, but it ran out a month ago. She is a single parent and has two other children at home with a babysitter. Your assessment finds L.S. alert, oriented, and extremely anxious. His color is pale, and his nail beds are dusky and cool to the touch; other findings are heart rate (HR) 136 beats/min, respiratory rate (RR) 36 breaths/min regular and even, oral temperature 99.1 ° F (37.3 ° C), Sp<sub>o</sub><sub>2</sub> 89%, breath sounds decreased in lower lobes bilaterally and congested with inspiratory and expiratory wheezes, prolonged expirations, and a productive cough. As you ask L.S.'s mother questions, you note that L.S.'s RR is increasing; he is sitting on the side of the bed, leaning slightly forward, and is having difficulty breathing. You are concerned that he is experiencing status asthmaticus.

1. You check the orders and need to decide which interventions are the priority at this time. Select all that apply and explain the rationale.
  - a. Monitor HR and RR every 2 hours
  - b. Administer oxygen via face mask to keep Sp<sub>o</sub><sub>2</sub> above 90%
  - c. Have L.S. lie flat
  - d. Administer albuterol (Proventil) and ipratropium bromide (Atrovent) via hand-held nebulizer (HHN) STAT
  - e. Reassess in 20 minutes, and if no improvement, administer salmeterol (Serevent Diskus) via dry-powder inhaler (DPI)
  - f. Start IV normal saline (NS) at 15 mL/hr and administer methylprednisolone 2 mg/kg IV STAT × 1 dose
  - g. Have L.S. perform incentive spirometry
  - h. Encourage PO fluids as tolerated

2. Identify the nursing responsibilities associated with giving albuterol.

## PART 2 PEDIATRIC, MATERNITY, AND WOMEN'S HEALTH CASES

### CASE STUDY PROGRESS

You give L.S. the albuterol and Atrovent. His O<sub>2</sub> saturation does not improve and remains at 88% with oxygen at 6 L/min via facemask. He says he "does not feel any better." He is retracing and RR rate remains 34 breaths/minute. You have started his IV infusion and administered the methylprednisolone. L.S.'s mother is pacing and tells you she very upset and worried. You overhead page the attending ED resident to assess, and you notify the patient-family advocate. The ED resident, Dr. S., arrives within 2 minutes to assess L. and to speak to L.'s mother. New orders are pending.

3. Chart your actions and the patient's response in the DAR (Data, Action, Response) format.

### CASE STUDY PROGRESS

L.S. is admitted to the pediatric intensive care unit (PICU) for close monitoring. His condition improves, and 24 hours later is transferred to the floor. Asthma teaching is ordered. You assess Ms. S.'s understanding of asthma and her understanding of the disorder.

4. Which of these statements by Ms. S. would indicate a need for further teaching?
  - a. "He should go to the doctor regularly to make sure his asthma is being treated correctly."
  - b. "If he takes medications for a while, he will outgrow his asthma."
  - c. "Part of his treatment should be avoiding things that irritate his lungs."
  - d. "If I recognize early warning signs, he might be able to take medicine and not go to the ED."
  
5. You are educating L.S. and his mother on possible asthma triggers in their environment. They live in public housing in an apartment without air conditioning. Which of these statements indicate possible asthma triggers? Select all that apply, and discuss strategies to avoid these triggers.
  - a. "The building has copper pipes."
  - b. "He coughs when we have cold nights after a warm day."
  - c. "We have a pet fish."
  - d. "There are hardwood floors."
  - e. "L. collects stuffed animals."
  - f. "Our visitors smoke outside."
  - g. "There are dark stains in our bathroom."
  - h. "The housing authority puts a foam down for bugs."

**CASE STUDY PROGRESS**

The following day, L.S. gets the discharge orders shown in the chart.

**Chart View****Discharge Orders**

Discharge to home  
Follow up with primary care provider in 3 days for evaluation  
Albuterol (Proventil HFA) MDI: 2 puffs with spacer every 4 hours prn  
Prednisolone (Prelone) 1 mg/kg PO every day for 5 days (L.S. weighs 23 kg.)  
Fluticasone (Flovent HFA) MDI: 1 puff twice a day  
Montelukast (Singulair) 5 mg every evening PO  
Provide peak flow meter  
Regular diet

6. Ms. S. asks why she will use the spacer with the medicine L.S. breathes in. Explain the purpose of a metered-dose inhaler (MDI and spacer).
  
  
  
  
  
  
  
  
  
  
7. Place the steps of using the MDI with the spacer in the correct order (1 = first step, 5 = last step)
  - a. Depress the top of the inhaler to release medication, and breathe in slowly for 3 to 5 seconds, holding the breath for 5 to 10 seconds at the end of inspiration.
  - b. Shake the inhaler and attach to the spacer.
  - c. Wait 1 to 2 minutes between puffs if more than 1 puff of the same medication is ordered.
  - d. Remove and exhale through the nose.
  - e. At the end of expiration, place mouthpiece into the mouth, forming an airtight seal.
  - f. Tilt the head back and exhale completely.

## PART 2 PEDIATRIC, MATERNITY, AND WOMEN'S HEALTH CASES

8. During your medication teaching session with Ms. S. and L.S., Ms. S. makes this statement: "So, if he has to take both inhalers at the same time, he should take the Flovent first, then the albuterol. Right?" Is this statement true or false? Explain your answer.
9. Ms. S. then asks, "How long should we wait between giving the two inhalers if they are both due at the same time? Can we just give them one after the other?" What is your response?
10. As you continue your medication teaching, you explain the difference between controller and reliever medications. Place a *C* beside the controller medication(s) and an *R* beside the reliever medication(s).
- \_\_\_\_\_ a. Albuterol
  - \_\_\_\_\_ b. Prelone
  - \_\_\_\_\_ c. Flovent
  - \_\_\_\_\_ d. Singulair
11. After L.S. takes a dose of the inhaled corticosteroid Flovent, what is the most important action he should do next?
- a. Hold his breath for 45 seconds
  - b. Rinse out his mouth with water
  - c. Repeat the dose in 5 minutes if he feels short of breath
  - d. Check his PFM reading for an improvement of function
12. Ms. S. comes back from the pharmacy with the Prelone and asks you to show her how much to give. Prelone is dispensed as 15 mg/5 mL. You give her a 10-mL oral dosage syringe. How much will she draw up for this dose? (Round to tenths.)

13. During the teaching session, you give L.S. a peak flow meter (PFM) and provide teaching for him and Ms. S. But L. looks puzzled and asks you, "Is this another medicine I have to take?" How would you explain the purpose of a peak flow meter to L.?
  
14. L.S. tells you that he loves to play basketball and football and asks you whether he can still do these activities. How will you respond?
  
15. Discuss the points to include in your discharge teaching regarding prevention of acute asthmatic episodes and symptom management,

### **CASE STUDY OUTCOME**

L.S. is discharged to home and has a follow-up appointment scheduled in 2 weeks. He plans to try out for his school's swim team.