Module 9 - Pediatric Respiratory Therapy

This module introduces the learner to the pediatric patient in the child health environment

Rationale

Why is it important for you to learn this material?

Pediatric respiratory therapy is an important but specialized area. Several anatomic differences exist between pediatric patients and adult patients, which makes pediatric assessment and therapy unique. Further, performing assessment and gathering history can be difficult in pediatric patients due to communication barriers. Also, there are several pathologies unique to pediatric patients, so an understanding of these is crucial for the practioner performing pediatric respiratory therapy.

Learning Outcome

When you complete this module you will be able to ….

Discuss the anatomical differences between children and adults and describe how these differences manifest during patient assessment. You will also be able to describe several techniques for enhancing the cooperation of a pediatric patient during an assessment. You will also be able to discuss the pathogenesis and treatment of several pediatric airway and lung disorders.

Learning Objectives

Here is what you will be able to do when you complete each objective.

1. Identify key anatomy differences between pediatric and adult patients.
2. Discuss strategies for performing a thorough pediatric assessment.
3. Discuss pediatric airway disorders.
4. Discuss the pathogenesis and management of pediatric lung disorders such as asthma and cystic fibrosis.

Objective 1

When you complete this objective you will be able to…

Identify key anatomy differences between pediatric and adult patients:

- cricoid cartilage is narrowest part of the airway
- ribs are more horizontal
- less-developed intercostal muscles

Learning Activity

Complete each of the Learning Activities listed below.

Objective Content – Read slides 1 - 10 in the attatched powerpoint, Pediatric Assessment.
Answer the following questions:

1. What is the narrowest portion of the pediatric airway? What is the narrowest portion of the adult airway?
2. Describe what paradoxical respirations are, and explain why pediatric patients are more prone to them than adults in respiratory distress.
3. What is the primary way children increase their minute volume if needed?

Objective 2

When you complete this objective you will be able to…

Discuss strategies for performing a thorough pediatric assessment including:

- Ways to enhance cooperation of the child during assessment
- Important observations to make about the child's appearance and condition
- Components of an assessment including the primary and secondary survey
- Use of the 'SAMPLE' method of history taking

Learning Activity

Complete each of the Learning Activities listed below.

Objective Content – Read Chapter 6 in Walsh, Brian K. Perinatal and Pediatric Respiratory Care, 3rd Edition.

Also, read the attatched powerpoint, Pediatric Assessment

1. List and describe the three components of the pediatric assessment triangle.
2. List four techniques for enhancing a child's cooperation during an examination
3. List three signs of an impending airway emergency.
4. List four signs of increased work of breathing in a pediatric patient.
5. What is the difference between respiratory distress and respiratory failure?6.
6. What is the normal HR, RR, temperature, BP, and SpO_2 for a toddler (1 - 3 years old)?
7. Describe what each letter of SAMPLE stands for with regards to taking a patient history.

Objective 3

When you complete this objective you will be able to…

Discuss pediatric airway disorders:

- Pierre Robin Syndrome
- Epiglottitis
- Laryngotracheobronchitis
- Bacterial Tracheitis
- Tracheaomalacia

Learning Activity

Complete each of the Learning Activities listed below.

Objective Content – Read Chapter 32 in Walsh, Brian K. Perinatal and Pediatric Respiratory Care, 3rd Edition.

Answer the following questions:

1. Briefly describe the differences between epiglottitis and LTB with regards to the organisms which cause them and treatment of the disease.
2. List three potential causes of tracheomalacia.

Objective 4

When you complete this objective you will be able to…

Discuss the pathogenesis and management of pediatric lung disorders:

- Bronchiectasis
- Bronchiolitis
- Pneumonia
- Recurrent aspiration syndrome
- Asthma
- Cystic fibrosis
- ARDS

Learning Activity

Complete each of the Learning Activities listed below.

Objective Content – Read Chapters 32 - 35 in Walsh, Brian K. Perinatal and Pediatric Respiratory Care, 3rd Edition.

Answer the following questions:

1. What is the most common cause of acute bronchiolitis in infants?
2. Is pneumonia most commonly caused by a viral or bacterial infection in pediatric patients?
3. List the six main components that cause airway obstruction in asthma.
4. Name four respiratory conditions that may mimic asthma in children.
5. What is the gold standard test for diagnosing CF? What value indicates a CF diagnosis?
6. What is a common mucolytic agent used in the management of cystic fibrosis?