

RSPT 61D: PEDIATRIC RESPIRATORY CARE

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2022
Units:	2
Hours:	2 lecture per week (24 total per quarter)
Prerequisite:	RSPT 61B.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

Student Learning Outcomes

- Differentiates between common pulmonary system disorders of the pediatric patient and selects appropriate therapy.
- Assess patients and select proper treatment and or actions necessary for resuscitation of the pediatric patient

Description

In-depth look at pediatric respiratory care. Examination and assessment of the pediatric patient. Pediatric respiratory diseases and disorders including treatment and management. Preparation for the Pediatric Advanced Life Support certification. Intended for students in the Respiratory Therapy Program; enrollment is limited to students accepted in the program.

Course Objectives

The student will be able to:

1. Perform chest examinations and pulmonary assessments on pediatric patients
2. Examine and compare pediatric PFT and bedside spirometry studies
3. Analyze pediatric chest and neck radiographic studies
4. Describe pediatric flexible bronchoscopy procedures
5. Analyze and evaluate pediatric laboratory results
6. Interpret cardiac and non-invasive monitoring data
7. List oxygen administration devices
8. Review aerosol and medication administration
9. Discuss airway clearance techniques and lung volume expansion therapy
10. Explain airway management and indications for CPAP and mechanical ventilation
11. Explain indications and application of non-invasive ventilation
12. Discuss gas mixtures
13. Describe organ transplantation as it relates to the pediatric population
14. Identify pediatric sleep disorders
15. Review Pediatric Advanced Life Support
16. Give examples of pediatric airway disorders

17. Explain cystic fibrosis
18. Define ARDS in the pediatric population
19. Describe shock, anaphylaxis, sepsis and meningitis
20. Explain thermal and inhalation injuries
21. Discuss head injury, cerebral, neurologic and neuromuscular disorders
22. Examine thoracic trauma in children
23. Discuss drowning and poisoning
24. Describe pediatric transport

Course Content

1. Chest examinations and pulmonary assessments
 - a. Chief complaint
 - b. History of present illness
 - c. Past medical history
 - d. Review of symptoms
 - e. Respiratory assessment
 - i. Vital signs
 - ii. General assessment
 - iii. Pulmonary examination
 - f. Family history
 - g. Social and environmental histories
2. Pediatric PFT and bedside spirometry studies
 - a. Special considerations
 - b. Techniques
 - c. Flow volume loop
 - d. Spirometry values
3. Pediatric chest and neck radiographic studies
 - a. AP films
 - b. PA films
 - c. Lateral films
 - d. Neck studies
 - e. CT studies
 - f. MRI studies
4. Pediatric flexible bronchoscopy
 - a. Indications
 - b. Equipment
 - c. Procedure
 - d. Monitoring
5. Pediatric laboratory studies
 - a. ABGs
 - b. Electrolytes
 - c. Chemistry
 - d. Hematology
 - e. Coagulation studies
6. Cardiac monitoring and non-invasive monitoring
 - a. Arterial lines
 - b. Pulmonary artery catheter
 - c. Non-invasive cardiac output measurements
 - d. Capnometry
 - e. Transcutaneous monitoring
 - f. Pulse oximetry
 - g. Calorimetry

7. Oxygen administration devices
 - a. Fixed performance
 - b. Variable performance
 - c. Indications
 - d. Contraindications
 - e. Resuscitation devices
8. Aerosol and medication administration
 - a. Nebulizers
 - b. Metered dose inhalers
 - c. Dry powder inhalers
9. Airway clearance techniques and lung volume expansion therapy
 - a. Indications
 - b. Risks and complications
 - c. Chest physical therapy
 - d. FET technique
 - e. PEP therapy
 - f. High frequency chest compression
 - g. Autogenic drainage
10. Airway management and indications for CPAP and mechanical ventilation
 - a. Intubation criteria
 - b. Indications for tracheotomy
 - c. Weaning criteria
11. Non-invasive ventilation
 - a. Indications
 - b. Devices
 - c. Interface selection
12. Gas mixtures
 - a. Inhaled nitric oxide
 - b. Heliox
 - c. Anesthetics
 - d. Hypoxic and hypercarbic gas mixtures
13. Organ transplantation
 - a. Indications
 - b. Complications
14. Sleep disorders
 - a. Obstructive apnea
 - b. Central apnea
 - c. Mixed apnea
15. Pediatric Advanced Life Support (PALS)
 - a. Respiratory distress
 - b. Respiratory failure
 - c. Respiratory arrest
16. Airway disorders in childhood
 - a. Asthma
 - b. Pneumonia
 - c. Upper airway disorders
 - i. Supralaryngeal obstruction
 - ii. Choanal atresia and Pierre Robin syndrome
 - iii. Deep neck infections
 - iv. Tonsillar enlargement
 - v. Peritonsillar abscess
 - vi. Retropharyngeal abscess
 - vii. Periglottic obstruction
 - viii. Epiglottitis
 - ix. Laryngotracheobronchitis
- d. Lower airway disorders
 - i. Bacterial tracheitis
 - ii. Tracheomalacia
 - iii. Stenosis
 - iv. Intraluminal obstruction
 - v. Foreign body aspiration
 - vi. Atelectasis
 - vii. Bronchiectasis
 - viii. Acute bronchiolitis
 - ix. Primary ciliary dyskinesia
 - x. Pneumonia
 - xi. Tuberculosis
 - xii. Sickle cell disease
17. Cystic fibrosis
 - a. Diagnosis
 - b. Pathophysiology
 - c. Manifestations
 - d. Treatment
 - e. Prognosis
18. ARDS
 - a. Definition
 - b. Criteria
 - c. Pathophysiology
 - d. Management
19. Shock, anaphylaxis, sepsis and meningitis
 - a. Pathophysiology
 - b. Presentation
 - c. Treatment
20. Thermal and inhalation injuries
 - a. Epidemiology
 - b. Classifications
 - i. First degree
 - ii. Second degree
 - iii. Third degree
 - c. "Rule of nines"
 - d. Incidence
 - e. Pathophysiology
 - f. Diagnosis
 - g. Management
21. Head injury, cerebral, neurologic and neuromuscular disorders
 - a. Brain injury
 - i. Causes of injury
 - b. Function of the nervous system
 - i. Central nervous system conditions
 - ii. Peripheral nervous system conditions
22. Examine thoracic trauma in children
 - a. Thoracic injury
 - i. Blunt trauma
 - ii. Penetrating thoracic trauma
23. Discuss drowning and poisoning

- a. Drowning
 - i. Submersion injury
 - ii. Incidence
 - iii. Pathophysiology
 - iv. Treatment
 - v. Management
 - vi. Mortality and morbidity
 - vii. Prevention
 - b. Poisoning
 - i. Intentional poisoning
 - ii. Unintentional poisoning
 - iii. Incidence
 - iv. Pathophysiology
 - v. Treatment
 - vi. Management
 - vii. Prevention
24. Pediatric transport
- a. Team composition
 - b. Modes of transport
 - c. Equipment
 - d. Medications
 - e. High altitude physiology

Lab Content

Not applicable.

Special Facilities and/or Equipment

Multimedia classroom and computer access.

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Examinations
 Special assignments
 Comprehensive final examination

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Lecture
 Discussion on topics related to pediatric respiratory care

Representative Text(s) and Other Materials

Walsh, Brian K. Neonatal and Pediatric Respiratory Care, 5th ed.. 2019.

Kacmarek, Stoller, and Heuer. Egan's Fundamentals of Respiratory Care, 12th ed.. 2019.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

Reading assignments from required textbook will vary from 1-5 chapters per week.

Discipline(s)

Respiratory Technologies