

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:

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

- Explain cystic fibrosis
- Define ARDS in the pediatric population
- Describe shock, anaphylaxis, sepsis and meningitis
- Explain thermal and inhalation injuries
- Discuss head injury, cerebral, neurologic and neuromuscular disorders
 - Examine thoracic trauma in children
- Discuss drowning and poisoning
- Describe pediatric transport

Course Content

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

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

- i. Drowning
 1. Submersion injury
 2. Incidence
 3. Pathophysiology
 4. Treatment
 5. Management
 6. Mortality and morbidity
 7. Prevention
- ii. Poisoning
 1. Intentional poisoning
 2. Unintentional poisoning
 3. Incidence
 4. Pathophysiology
 5. Treatment
 6. Management
 7. Prevention
- x. Pediatric transport
 - i. Team composition
 - ii. Modes of transport
 - iii. Equipment
 - iv. Medications
 - v. High altitude physiology

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

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.