Course Information Form (CIF)

Course Code: RTT 215

Course Title: Respiratory Therapy VII

Department: Allied Health
PCS Code: 1.2 - Occupational/Technical Instruction
CIP Code: 51.0908
Repeatability: 0

Effective Date: Summer 2026

Credit Hours

Catalog Notation: 4-0-4
Credit Hour Distribution:

Lecture: 4	Lab: 0	Clinical: 0	**Total: 4**

General Course Information

Catalog Description

Fetal development, the effects of maternal health, newborn assessment. Pathology of newborn respiratory complications and pediatric respiratory illness diagnosis and treatment. Electrocardiograph interpretation and AHA ACLS/PALS-based treatment, Advanced Cardiac Life Support (ACLS) and PALS algorithms for pharmacology, airway management, and case-based application of ACLS, PALS, and NRP protocols.

General Course Objectives

Upon completion of the course, the student will:

- Demonstrate knowledge and practical application of electrocardiogram rhythm identification, American Heart Association protocols for pharmacological and electrical interventions, and post-resuscitation care.
- Demonstrate knowledge of the clinical presentation of acute coronary syndromes and stroke, and the appropriate interventions based on patient presenting symptoms.
- Demonstrate understanding of the development of the fetus, and the impact of maternal health factors and prematurity.
- Integrate the presenting clinical signs and symptoms with the pathophysiology of conditions common in the newborn, infant, and pediatric patient to identify probable disease/injury of the patient.
- Select the appropriate respiratory interventions for the presenting neonatal, infant, or pediatric condition and general condition-specific treatment indicated for specific diseases presented.

Minimum Placement Levels

English	Reading	Math
Credit in ENG 101 with a grade of C or higher	Placement out of CCS 099	Placement out of MAT 072

Prerequisites

Credit in RTT 136 and RTT 137
Concurrent enrollment in RTT 212, RTT 213, and ENG 102
Admission into the Respiratory Care program

Methods of Evaluation

12-15 quizzes, 14 worksheets, 4-6 discussion posts, 4-6 exams, and 1 virtual poster.

Instructional Materials and Additional Supplies

Foundations in Neonatal and Pediatric Respiratory Care, latest edition. Volsko, T.A., Barnhart, S., Jones and Bartlett Learning. 978-443-5000
Advanced Cardiac Life Support Provider Manual, 978-1616694005
Pediatric Advanced Life Support Provider Manual, (2015). 978-1616695590
Respiratory Care Anatomy and Physiology, Foundations for Clinical Practice, current edition. Beachy, Will, Elsevier, Inc. This text required for previous RTT course. 9780323416375

Course Content

General Learning Outcomes (GLOs)

- Critical Thinking and Information Literacy: Students will demonstrate the ability to evaluate perspectives, evidence, and implications, and to locate, assess, and use information effectively.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Electrophysiology of the Heart	1. Identify and label the anatomical structures of the heart and coronary vascular system including the atria, the ventricles, the interventricular septum, the pulmonary arteries, the coronary arteries, and the aorta. 2. Describe the function of the key components of the heart and coronary vascular system including the atria, the ventricles, the interventricular septum, the pulmonary arteries, the coronary arteries, and the aorta. 3. Identify and label the components of the electrical conduction system of the heart including the sinus node, the atrioventricular node, the interatrial bundle, the AV bundle, the right and left branches of the AV bundle, and the Purkinje fibers. 4. Describe the properties of cardiac muscle: automaticity, excitability, conductivity, and contractility. 5. Describe the electrophysiology of the of the cardiac cells including action potential, depolarization, repolarization, and refractory period. Include the role of sodium, potassium, and calcium channels. 6. Explain why abnormalities of Ca++ and K+ concentration affect cardiac muscle contractility. 7. Explain why catecholamine drugs increase cardiac contractility. 8. Explain why calcium channel blocking agents affect cardiac contractility. 9. Describe the consequences of blocked atrial impulses that fail to enter the ventricles. 10. Explain how and why catecholamines and calcium channel blockers affect cardiac contractility. 11. Describe the role of the autonomic nervous system on cardiac function. Include the effect on the heart of stimulation of the sympathetic and parasympathetic branches of the autonomic nervous system. 12. Correlate the electrical and mechanical events related to the normal cardiac cycle and the graphic representation of these events to the electrocardiograph (ECG).	1	0	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Electrocardiography	1. Explain how each of the components (waves, complexes, segments, and intervals) of the ECG relate to the electrical and mechanical activity of the heart. 2. Describe how the linear and horizontal markings on the grid paper are used to present the ECG. Include the time and voltage measures. 3. Apply knowledge of the ECG grid paper to analyze the heart rate and the time measure of ECG segments, waves, intervals, and complexes. 4. Describe the ECG procedure. Include the numbers and placement of leads, and the differences in a 3-lead study and 12-lead study.	1	0	0
Rhythm Recognition and Treatment	1. Discuss the indications and limitations of the electrocardiogram. Include potential errors in study procedure. 2. Discuss the differences in the data revealed in a three-lead monitoring ECG and a twelve-lead ECG. 3. Identify common electrocardiogram (ECG) rhythms and arrhythmias, including normal sinus rhythm, bradycardia, tachycardia, supraventricular tachycardia, ventricular tachycardia, ventricular fibrillation, atrial fibrillation, atrial flutter, asystole, pulseless electrical activity, and first, second, and third degree heart blocks. 4. Identify the potential cause of each of the following arrhythmias: bradycardia, tachycardia, supraventricular tachycardia, ventricular tachycardia, ventricular fibrillation, atrial fibrillation, atrial flutter, asystole, pulseless electrical activity, and first, second, and third degree heart blocks. 5. Recommend the pharmacological or electrical treatment, if indicated, for each of the following arrhythmias: bradycardia, tachycardia, supraventricular tachycardia, ventricular tachycardia, ventricular fibrillation, atrial fibrillation, atrial flutter, asystole, pulseless electrical activity, and first, second, and third degree heart blocks.	3	0	0
Introduction to ACLS: Advanced Cardiac Life Support	1. Distinguish between out-of-hospital and in-hospital resuscitation procedures and priorities. 2. Identify the steps, in order, and discuss the benefits of the Systematic Approach. Identify circumstances that would cause a deviation from assessment into immediate treatment. 3. Identify the steps of the initial survey (assessment of the patient/victim) in the order in which the steps should be done. 4. Identify the components of initial BLS assessment primary assessment and resuscitation steps for the conscious and unconscious patient/victim. Include the rates and ratios for compressions, breaths, timing for interruptions, and use of the AED. 5. Discuss indications and timing of advanced airway placement. 6. Identify and describe the components of the secondary survey using the SAMPLE acronym. Include the additional clinical data and diagnostics that may be indicated during this phase of the resuscitation. Include clinical labs, blood gases, and imaging studies depending on the presentation of the patient. 7. Identify the key roles and responsibilities of each of the resuscitation team members. Discuss the scope of practice for the respiratory therapist and how a respiratory therapist would respond to a directive outside the scope of practice. 8. Identify examples of ineffective teamwork and recommend effective teamwork behaviors in resuscitation cases. 9. Discuss how a respiratory therapist would use helpful feedback or clarification to avoid personal errors or errors by others.	2	0	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
ACLS Pharmacology	1. Identify the routes of administration of medications in resuscitation and the advantages/disadvantages of each and order of preference for utilization. Include intravascular, intraosseous, and endotracheal. 2. Identify the medications and pharmacologic action of the medications utilized in the ACLS protocols, including vasopressors, antiarrhythmics, beta-blockers, calcium channel blockers, anti-coagulants, thrombolytics, morphine, and oxygen. 3. Identify the specific indications for the administration of antiarrhythmic medications, their doses, and frequency for administration. 4. Identify the specific indications for thrombolytic and anticoagulant medications, their doses, and frequency. Include the contraindications and risks. 5. Identity the specific indications for vasopressor medications, their doses, and frequency or timing for administration. 6. Identify the indications for administration of beta-blockers and calcium channel blockers, their doses, and frequency. 7. Identify the indications and dose for the administration of atropine. 8. Identify the indications, dose, and frequency for the administration of morphine. 9. Identify indications and dose for the administration of oxygen. Include the administration device, flow rate, or percentage. 10. Evaluate the patient clinical presentation, including patient history, mentation, vital signs, and/or ECG rhythm to select and initiate the appropriate medication and dosage to treat the patient according to the Advanced Cardiac Life Support algorithms.	3	0	0
ACLS Airway Adjuncts	1. Identify the indications and contraindications for each of the following airway adjuncts: oropharyngeal airway, nasopharyngeal airway, resuscitation bag, PEEP valve, end-tidal CO2 detector, capnometer, endotracheal tube, laryngoscope handle and blade, Combitube, King airway, and endotracheal tube securing device. 2. Select the appropriate airway adjunct for specific patient case presentations. 3. Discuss strategies for managing difficult airways when intubation is not achieved. 4. Identify the indications for cricothyroidotomy to provide airway access. 5. Discuss the use of end-tidal CO2 (capnography) to evaluate the quality and efficacy of chest compressions. Identify the eTCO2 value that indicates effective chest compressions. 6. Evaluate patient clinical presentation and all available clinical data including physical examination and radiographic imaging to identify complications with airway placement and ventilation such as right main stem intubation or changes in lung compliance or airway resistance; initiate corrective action to identified complication.	2	0	0
ACLS Stroke	1. Discuss the epidemiology of stroke including the risk factors. 2. Identify and discuss the out-of-hospital and in-hospital approach to assessment and care. 3. Identify the common signs and symptoms of a person with a stroke. Discuss the use of stroke assessment tools such as the Cincinnati Stroke Score or FAST. 4. Identify the two major categories of stroke. Discuss the role of the CT in determining the type of stroke. 5. Identify the 8 Ds and goals of stroke care and the targeted time for completion of each. Include the role of the designated stroke center. 6. Identify the indications, contraindications, and risks associated with fibrinolytic therapy and anticoagulant therapy. 7. Evaluate the clinical presentation of a patient with a possible stroke, including physical presentation, signs and symptoms, and history. Implement the Advanced Cardiac Life Support stroke algorithm, including the need for diagnostic testing, respiratory intervention, and medications.	1	0	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Acute Coronary Syndrome	1. Identify the signs and symptoms associated with the presentation of a patient with possible acute coronary syndrome or myocardial infarction. 2. Identify the ECG rhythms associated with the patient with possible acute coronary syndrome or myocardial infarction. 3. Identify the medications associated with patients who present with with possible acute coronary syndrome or myocardial infarction. 4. Differentiate between a STEMI and nSTEMI, including the ECG, and recommended definitive treatment for each. Include the indications for early reperfusion therapy such as percutaneous coronary interventions (PCI). 5. Discuss the primary priorities for in-hospital versus out-of-hospital interventions for a patient presenting with acute coronary syndrome or myocardial infarction. Include the targeted timelines for completion of each step. 6. Identify the recommended pre-hospital interventions for signs and symptoms of possible myocardial infarction. 7. Identify the clinical signs and symptoms of deterioration in a patient who presents with acute coronary syndrome. 8. Discuss the role of rapid response teams and their effect on outcomes. 9. Discuss the use of fibrinolytic therapy for patients who present with acute coronary syndrome, including the indications and potential risks. 10. Demonstrate identification of the signs and symptoms of a person presenting with acute coronary syndrome and application of the protocols for appropriate interventions based on patient assessment. 11. Evaluate the clinical presentation and available clinical data to recommend post-resuscitation care, including level of care indicated, ventilation strategies, and use of targeted temperature management.	2	0	0
Respiratory Arrest, Ventricular Fibrillation, Ventricular Tachycardia, PEA/Asystole	1. Identify the clinical signs and symptoms and interpret the ECG of the patient presenting in respiratory arrest, ventricular tachycardia, ventricular fibrillation, or pulseless electrical activity based on electrocardiogram and patient state. 2. Discuss the factors that determine when a patient is deemed stable versus unstable. 3. Differentiate defibrillation, electrical cardioversion, and chemical cardioversion (drug). Identify when each intervention would be indicated. 4. Discuss patient preparation and the use of sedation during electrical and chemical cardioversion. 5. Discuss the indications for chemical (drug) cardioversion. 6. Identify the potential causes of pulseless electrical therapy and required intervention for each. (H's and T's) 7. Use the American Heart Association protocols to recommend appropriate interventions for respiratory arrest, ventricular fibrillation, ventricular tachycardia, pulseless electrical activity, or asystole based on assessment findings. 8. Identify the medications and dosage indicated to treat a patient presenting in respiratory arrest, ventricular fibrillation, ventricular tachycardia, pulseless electrical activity, or asystole. 9. Identify electrical therapy and energy levels indicated for the patient presenting in respiratory arrest, ventricular fibrillation, ventricular tachycardia, pulseless electrical activity, or asystole. 10. Demonstrate the ability to lead a resuscitation team for a patient who presents in acute coronary syndrome. Include assigning team roles and directing assessment, including ECG rhythm interpretation, and interventions, including oxygen, medications, and electrical therapy.	2	0	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Tachycardic Arrhythmias	1. Demonstrate identification of stable and unstable tachyarrhythmias based on electrocardiogram and patient presentation. 2. Demonstrate application of the American Heart Association protocols to assess and initiate treatment of the patient who presents with potentially lethal tachycardia. 3. Identify the pharmacological treatment for the patient who presents with potentially lethal tachycardia. Include the dosages, route/method of administration, effects, and patient preparation. 4. Differentiate cardioversion and defibrillation and the indications for each of them. Include the electrical energy amounts (joules) for each. 5. Discuss the personnel and equipment that is required at the bedside for performing a cardioversion.	2	0	0
Post Resuscitation Care	1. Identify the appropriate follow-up care to successful resuscitation, including transfer to the cardiac catheterization lab, intensive care, or surgery as needed. 2. Discuss situations when it is appropriate to withhold resuscitation care, and when it is acceptable to stop resuscitation attempts. 3. Discuss the impact of patient and family culture on end of life decisions. 4. Reflect on personal value system and recognize its impact on emotions in resuscitation and life support situations. 5. Identify benefits and the indications for the implementation of targeted temperature management. Include the specific temperature ranges and time limits for the use of targeted temperature management. 6. Discuss the advantages and disadvantages of family presence in the room during resuscitation.	1	0	0
Pediatric Advanced Life Support: Assessment	1. Discuss the team approach to the care of a pediatric patient in extremis. Describe the specific role of the respiratory therapist. 2. Identify the critical steps in the primary assessment of a pediatric patient in acute distress. 3. Identify and discuss the steps in the secondary assessment of the pediatric patient. 4. Demonstrate use of the P-A-T and SAMPLE assessment tools in specific patient cases.	1	0	0
PALS: Respiratory Compromise	1. Recognize the signs and symptoms of an upper airway obstruction and apply the PALS algorithms to select specific assessment information/tests for the patient presenting with signs and symptoms associated with upper airway obstruction. 2. Identify the common causes of upper airway obstruction in the infant and pediatric patient populations. 3. Demonstrate the respiratory skills needed to treat an infant or pediatric patient who presents with an upper airway obstruction. Include aerosolized medication administration, insertion of oral airways, intubation, and manual ventilation with a resuscitation bag and mask. 4. Recognize the signs and symptoms of a lower airway obstruction and apply the PALS algorithms to select specific assessment information/tests for the patient presenting with signs and symptoms associated with lower airway obstruction. 5. Identify the common causes of lower airway obstruction in the infant and pediatric patient populations. 6. Demonstrate the respiratory skills needed to treat an infant or pediatric patient who presents with a lower airway obstruction. Include aerosolized medication administration, insertion of oral airways, intubation, and manual ventilation with a resuscitation bag and mask. 7. Recognize the signs and symptoms of disordered breathing and apply the PALS algorithms to select specific assessment information/tests for the patient presenting with signs and symptoms associated with disordered breathing. 8. Identify the common causes of disordered breathing in the infant and pediatric populations. 9. Demonstrate the respiratory skills needed to treat an infant or pediatric patient who presents with disordered breathing. Include aerosolized medication administration, insertion of oral airways, intubation, and manual ventilation with a resuscitation bag and mask. 10. Demonstrate application of the P-A-T initial assessment tool and the SAMPLE assessment tool to systematically assess and treat infants and children who experience an airway or breathing emergency.	2	0	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
PALS: Shock	1. Recognize the signs and symptoms of shock in the infant and pediatric populations and apply the correct PALS algorithm to select specific assessment information/tests for the patient presenting with signs and symptoms associated with shock. 2. Differentiate the various types of shock: obstructive, hypovolemic, distributive, and cardiogenic, and the common causes of each. 3. Recommend treatment as indicated for the specific patient presentation and type of shock. 4. Identify the medications and their dosages associated with the treatment of pediatric shock. 5. Demonstrate the respiratory skills needed to support an infant or pediatric patient who presents with shock. Include insertion of oral airways, intubation, manual ventilation with a resuscitation bag and mask, and chest compressions.	3	0	0
PALS: Arrhythmias and Their Treatment	1. Interpret the ECG and analyze the clinical assessment information provided to determine the status of the patient and initiate treatment. 2. Identify the common causes of sinus tachycardia, supraventricular tachycardia, ventricular tachycardia, ventricular fibrillation, atrial fibrillation, atrial flutter, asystole, and pulseless electrical activity (PEA). 3. Identify the criteria for symptomatic bradycardia and the common causes, and identify the medications indicated for the patient presenting in a symptomatic bradycardia. 4. Identify the heart rate criteria for tachycardia versus supraventricular tachycardia in various age ranges. Discuss the common causes in the pediatric populations. 5. Discuss the treatment options for tachycardia. 6. Discuss the treatment options for supraventricular tachycardia. Include the advantages and disadvantages of medication administration and electrical therapy. 7. List and describe the "H's and T's". Identify the common causes in the pediatric population, and steps to verify the potential cause or rule it out. 8. Demonstrate the respiratory skills needed to support an infant or pediatric patient who presents with symptomatic or life-threatening arrhythmias. Include insertion of oral airways, intubation, manual ventilation with a resuscitation bag and mask, and chest compressions. 9. Apply the PALS algorithms to select specific assessment information/tests and recommend treatments in specific pediatric cases of tachycardia, including sinus tachycardia, supraventricular tachycardia, ventricular tachycardia, ventricular fibrillation, atrial fibrillation, and atrial flutter.	2	0	0
Fetal Development and Maternal Factors	1. Identify the stages of fetal development and the major developmental events in each stage. 2. Identify the complications associated with infant prematurity at birth. 3. Explain the circulatory blood flow of the fetus and the anatomical changes that occur at birth, including a discussion of the three shunts. 4. Identify the potential complications of failure of the post-partum circulatory changes to occur. 5. Describe probable development stage of a fetus based on gestational age when delivery is imminent. 6. Identify the maternal factors that impact the viability of the fetus. Include maternal overall health, nutrition, tobacco use, drug use, and alcohol use.	3	0	0
Neonatal Assessment	1. Identify the normal vital signs of the infant and the potential causes of abnormalities. 2. Discuss the assessment scoring tools used to evaluate the newborn, including the Apgar score and the Silverman score. 3. Identify common skin abnormalities seen in newborns, including lanugo, petechiae, and Mongolian spots. 4. Determine the Apgar score for a newborn based on the clinical data provided.	2	0	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Neonatal Disease Pathophysiology	1. Identify and discuss neonatal respiratory diseases that affect exhalation and are associated with respiratory distress. 2. Based on description of clinical presentation and history of the patient, identify appropriate diagnostic tests and/or procedures needed to provide definitive diagnosis and treatment priorities. 3. Analyze test and procedure results for the patient to identify the potential for respiratory compromise and possible diagnosis. 4. Describe the anatomical abnormalities, clinical signs, symptoms, and key characteristics of apnea of prematurity, transient tachypnea, meconium aspiration, pulmonary air leak syndromes, respiratory syncytial virus, diaphragmatic hernia, croup, epiglottitis, bronchopulmonary dysplasia, cystic fibrosis, asthma, and infant respiratory distress syndrome. 5. Based on the clinical presentation and test/procedure results, recommend respiratory treatment as indicated for apnea of prematurity, transient tachypnea, meconium aspiration, pulmonary air leak syndromes, respiratory syncytial virus, diaphragmatic hernia, croup, epiglottitis, bronchopulmonary dysplasia, cystic fibrosis, asthma, and infant respiratory distress syndrome.	6	0	0
Respiratory Care Interventions for Infants and Children: Non-invasive	1. Identify standard oxygen delivery devices, flow rate ranges, indications, and potential hazards; include low flow nasal cannula, simple mask, and non-rebreather mask for infants and children. 2. Identify the flow rates required, indications, and potential complications for the oxygen hood. 3. Identify the indications for the heated high flow nasal cannula, flow rate limitations, and potential complications for infants and children. 4. Identify and describe the different methods to generate nasal continuous positive airway pressure (CPAP), including continuous flow bubble CPAP, flow restrictors, flow generators, and high flow cannulas for infants and children. 5. Identify the indications and potential complications for nasal CPAP. 6. Discuss the role of the respiratory therapist in monitoring and preventing skin breakdown in patients receiving nasal CPAP. 7. Describe the use of a standard mechanical ventilator to provide ventilation via nasal cannula or face mask. 8. Apply respiratory therapy protocols and clinical practice guidelines specific to infants and children to select and recommend an appropriate device, flow rate, and oxygen concentration based on patient clinical presentation and data.	6	0	0
Respiratory Care Interventions for Infants and Children: Invasive	1. Identify the indications to implement mechanical ventilation. 2. Identify the correct endotracheal tube size based on patient size/weight. 3. Discuss the benefits and detriments of the characteristics of the following modes of mechanical ventilation: assist/control, SIMV, PRVC, NAVA, Si-PAP, and Bi-Vent in the infant and pediatric populations. 4. Discuss the specific indications for high frequency oscillatory ventilation (HFO) and high frequency jet ventilation (HFJV). 5. Discuss the ventilator controls specific to high frequency modes of ventilation, and the effect of manipulating them on oxygenation and ventilation. 6. Evaluate patient clinical presentation and all available clinical data and recommend invasive ventilation modes and settings to effectively and safely ventilate the patient.	4	0	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Neonatal Resuscitation	1. List the key elements needed to prepare for a high-risk delivery. Include personnel, equipment, and supplies. 2. Describe the equipment needed to obtain and maintain a patent airway and to support ventilation following delivery of an infant following birth. 3. Describe the components scored in the Apgar score. Determine the Apgar score from a description of the infant at birth. 4. Discuss the need for judicious use of oxygen in the delivery room. Identify common complications of excessive oxygen levels. 5. Discuss the use of CPAP during stabilization. Include the pathophysiology. 6. Identify the indications for bag mask ventilation. 7. Explain the method for selecting the correct size endotracheal tube. 8. Identify the indications for chest compressions and describe the two hand position methods. 9. Identify the routes for the administration of emergency medications. Discuss the benefits and barriers of each route in resuscitation. 10. List the indications for epinephrine and volume expanders in infant stabilization. Discuss the options for vascular access in the newborn, including intravenous umbilical artery or venous line. 11. Describe the sequence of actions in the Neonatal Resuscitation Program for newborn resuscitation. 12. Demonstrate the sequence of actions to be performed in neonatal resuscitation. Assess the infant and respond to vital signs and infant description to provide resuscitation. 13. Discuss the components of post-resuscitation care of the newborn, including respiratory monitoring and support, temperature control, and nutrition.	2	0	0
Congenital Heart Defects	1. Discuss acyanotic heart heart disease versus cyanotic heart disease. 2. Identify and describe the acyanotic heart defects with left-to-right shunts. Discuss diagnostic intervention, cardiovascular management, and outcomes for these defects. 3. Identify and describe acyanotic heart defects with left ventricular outflow tract obstruction. Discuss diagnostic intervention, cardiovascular management, and outcomes for these defects. 4. Identify and describe cyanotic heart defects with decreased pulmonary blood flow. Discuss diagnostic intervention, cardiovascular management, and outcomes for these defects. 5. Identify and describe cyanotic heart defects with increased pulmonary blood flow. Discuss diagnostic intervention, cardiovascular management, and outcomes for these defects. 6. Identify a single ventricle lesion. Discuss diagnostic intervention, cardiovascular management, and outcomes for this defect.	2	0	0
Acute Respiratory Disorders	1. Explain how bronchiolitis and respiratory syncytial virus are transmitted. 2. Describe the anatomic alterations and pathophysiology of bronchiolitis. 3. Discuss the evidence-based therapies recommended for bronchiolitis. 4. Describe the anatomic alterations and pathophysiology of respiratory syncytial virus (RSV). 5. Discuss the prevention and treatment of RSV. 6. Describe the anatomic alterations in laryngotracheobronchitis (LTB). Compare and contrast with epiglottitis. 7. Identify the pathogens that typically cause laryngotracheobronchitis, epiglottis, and bacterial tracheitis. 8. Describe the definitive radiologic findings in laryngotracheobronchitis, epiglottitis, and bacterial tracheitis. 9. Discuss the treatment options for laryngotracheobronchitis, epiglottis, and bacterial tracheitis. 10. Identify the pathogens that cause influenza. 11. Describe the clinical signs and symptoms of influenza.	3	0	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Acute Respiratory Disorders (cont'd)	12. Discuss the respiratory treatment indicated for influenza. 13. Describe the pathophysiology of air leaks in infants and children. 14. Discuss clinical presentation of an air leak in infants and children. 15. Discuss the diagnostic tools available for confirmation of an air leak, including transillumination and radiography. 16. Discuss the treatment of air leaks. 17. Discuss the clinical presentation of pneumomediastinum. 18. Discuss the treatment of pneumomediastinum. 19. Describe the clinical presentation of pleural effusion. 20. Discuss the treatment strategies for a pleural effusion, including thoracentesis, chest tube, and pleurodesis. 21. Describe a chylothorax, its etiology, and its pathophysiology. 22. Discuss the diagnosis and treatment for a chylothorax. 23. Describe a hemothorax, its traumatic and non-traumatic causes, and its etiology. 24. Discuss the clinical presentation of an infant or child who has sustained a hemothorax. 25. Describe the treatment options for a hemothorax. 26. Evaluate the description of a patient's clinical presentation, medical history, and all available clinical data to identify the likely diagnosis. Select the recommended treatment needed to correct any life-threatening situation.			
Chronic Respiratory Disorders in Children: Asthma and Cystic Fibrosis	1. Describe the pathophysiology of asthma in children, including the risks of permanent lung remodeling. 2. Discuss the etiology of asthma, including common causes, incidence in the United States, and specific impact on children. 3. Discuss the diagnostic tests that will aid in the differential diagnosis of asthma. Include pulmonary function testing, bronchoprovocation, eosinophil levels, and exhaled nitric oxide. 4. Identify the common symptoms associated with acute asthma in children. Discuss the physical assessment findings that are specific to infants and children, including nasal flaring, grunting, and paradoxical chest wall movement. 5. Explain the classifications of asthma severity using the EPR-3 report. 6. Based on patient history and clinical presentation, classify the severity of asthma and degree of control. 7. Discuss the step-wise approach to asthma treatment for inhaled medications. 8. Based on a review of the patient history and clinical presentation, create an asthma management plan that reflects the patient age and degree of autonomy. 9. Provide asthma education for a newly diagnosed child and their family that addresses identifying triggers, common allergens, self-monitoring, smoking, and medication self-administration for the affected child, identifying an acute exacerbation. 10. Describe the pathophysiology of cystic fibrosis. 11. Discuss the tests that are indicated to confirm a diagnosis of cystic fibrosis. 12. Identify and explain the four daily essential components of cystic fibrosis. 13. List and describe the multiple system complications that are associated with cystic fibrosis. 14. Develop a care plan for the pediatric patient with cystic fibrosis. Incorporate self-monitoring, inhaled medications, airway clearance, expansion therapies, nutrition, infection prevention, and identification and treatment of acute exacerbations.	2	0	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Pediatric Neurodisability Disorders	1. Identify common congenital neurodisability disorders that frequently result in secondary pulmonary complications, including cerebellar dystrophy, Down syndrome, Pompe disease, myotonic dystrophy, muscular dystrophy, spina bifida, and spinal muscular dystrophy. 2. Identify and discuss examples of acquired neurodisability disorders. including complications of prematurity, neurological insults or injury at birth, traumatic brain injury, spinal cord injury, and infection. 3. Describe the key characteristics of muscular dystrophy, spinal muscular dystrophy, cerebral palsy, spina bifida, Guillain-Barre syndrome, myasthenia gravis, transverse myelitis, and mitochondrial disorders. 4. Define the pulmonary composite concept for pediatric patients with neurodisability of any etiology. Identify common factors that determine the pulmonary concept for any patient with underlying neurodisability. Identify the primary factors that determine the pulmonary composite including drooling, GERD, oropharyngeal dysphagia, seizures, recurrent infection, hypotonia, hypopnea, spasticity, and immobility. 5. Define and discuss airway secretion overload, the role it plays, and factors that contribute to the severity of it. 6. Discuss how airway secretion overload contributes to the progression of chronic lung disorders. 7. Describe the step-wise physical, laboratory, and radiologic assessment that is used to evaluate pulmonary disease in a pediatric patient with neurodisability. 8. Develop a respiratory care plan to facilitate airway clearance and produce pulmonary stability for the pediatric patient with a neurodisability disorder. 9. Develop a teaching plan for the caregiver of a pediatric patient with a neurodisability disorder to include patient assessment, medication administration, airway clearance, and mechanical ventilator support as indicated. Include didactic and skills return demonstration in the plan.	2	0	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
60	0	0