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You can get access to our massive bank of TMC Practice Questions by Clicking Here. 😊
Why hello there!

Thank you so much for downloading this study guide! In this book, you will find a ton of helpful practice questions, all, of course, covering the topic of — Pharmacology.

These questions are designed to help you prepare for the Pharmacology final exam in Respiratory Therapy School.

Hopefully, by going through these practice questions, you will be able to boost your knowledge to a whole new level.

Cardiopulmonary Pharmacology is definitely one of the most important subjects in Respiratory Therapy School. Not to mention, it's also the topic that some students struggle with.

With that being said, (hopefully) this study guide, along with the resources on our website and YouTube channel can help.

So if you’re ready, let’s go ahead and get started.

Good luck! 😊
1. What layers make up the mucosal blanket that covers the airways?
   A. Gel and Sol
   B. Mucus glands and goblet cells
   C. Alveolar type I and II cells
   D. Clara cells and cilia

2. Corticosteroids are described as which of the following?
   A. Bronchodilators
   B. Smooth muscle dilators
   C. Anti-inflammatory agents
   D. Lipid soluble agents

3. Cromolyn sodium is indicated in all but which of the following conditions?
   A. Acute asthma
   B. Asthma prophylaxis
   C. Exercise induced asthma
   D. Allergic rhinitis

4. All BUT WHICH of the following are complications that may occur with the use of exogenous surfactant?
   A. Desaturation
   B. Tachycardia
   C. Hyperoxygenation
   D. Overventilation

5. Which of the following disease are characterized by hypersecretion of mucus? Select all that apply.
   A. Chronic bronchitis
   C. Asthma
   D. Cystic fibrosis
   D. All of the above

6. Which of the following would occur if it is determined that an alveolus has a surface tension of 40 dynes and a radius of 4 centimeters?
A. 20 cmH2O would be required to inflate alveolus; patient’s WOB would decrease
B. 40 cmH2O would be required to inflate alveolus; patient’s WOB would decrease
C. 20 cmH2O would be required to inflate alveolus; patient’s WOB would increase
D. 40 cmH2O would be required to inflate alveolus; patient’s WOB would increase

7. A patient receiving both Azmacort and Proventil questions the practitioner about why both drugs are needed. The best answer is:
   A. Azmacort treats wheezing and Proventil prevents future asthma attacks
   B. Proventil works quickly to relax your airways and Azmacort helps reduce the inflammation
   C. The doctor ordered both to be taken once every night
   D. Azmacort usually causes bronchospasm, so we are giving you Proventil to treat this side effect

8. The same patient using combination Steroid and Bronchodilator is discharged from a hospital. The patient is sent home with orders for both Azmacort and Proventil MDIs. What is most critical that the patient understand?
   A. That use of the MDIs may elicit a cough
   B. That Proventil is also available in a nebulization solution
   C. That Azmacort is a controller and not to be used during an acute attack
   D. That Azmacort should be discontinued after wheezing stops

9. If a patient experiences an asthma attack as a result of exposure to cats, the asthma would be categorized as which of the following?
   A. Intrinsic
   B. Extrinsic
   C. Autoimmune
   D. Intangible
10. Side effects of aerosolized Mucomyst may include:
   A. Bronchospasm, acute airway obstruction, and nausea
   B. Bronchodilation, oropharyngeal irritation, and acute airway obstruction
   C. Fluid overload, bronchospasm, and oropharyngeal irritation
   D. Liver damage, bronchospasm, and corrosion of metal dental work

11. Which of the following should be stressed when instructing a new patient in the use of aerosolized steroids?
   A. Use the MDI steroids only when symptoms are severe
   B. Taper steroid use gradually under a physician’s supervision
   C. Adjust dosage and frequency according to how it “feels”
   D. Alternate MDI steroids with other anti-asthmatic drugs

12. What is the mode of action of Acetylcysteine in promoting mucolysis?
   A. Disruption of plasma proteins
   B. Increase of mucus alkalinity
   C. Hygroscopic properties
   D. Disruption of disulfide bonds

13. Allergic and nonallergic rhinitis would be treated with which of the following forms of corticosteroids?
   A. Pill
   B. Nasal spray
   C. Aerosol
   D. Injection

14. Which of the following would be recommended to properly administer Survanta to a 1200 gram infant?
   A. Administer 4 doses of Survanta 1.2 ml via the ET tube
   B. Provide positive pressure ventilation for 30 to 45 seconds after each administration
   C. Rotate infant four times during administration of the drug
   D. All of the above
15. When administering corticosteroids by the aerosol route, a local side effect to monitor includes:
   A. Appearance of nasal polyps
   B. Tachycardia
   C. Appearance of thrush
   D. HPA suppression

16. All but which of the following are possible side effects seen with systemic administration of corticosteroids?
   A. HPA suppression
   B. Slow growth in children
   C. Diuresis
   D. Osteoporosis

17. Cromolyn sodium accomplishes which of the following?
   A. Stabilizes leukotrienes
   B. Stabilizes white blood cells
   C. Prevents histamine release
   D. Prevents eosinophil degranulation

18. Which of the following does not appropriately describe Cromolyn sodium?
   A. Bronchodilator
   B. Mast cell stabilizer
   C. Controller drug
   D. Anti-inflammatory

19. Which of the following reactions may occur when using aerosolized corticosteroids for a local effect?
   A. Oral fungal infections
   B. Pulmonary aspergillosis
   C. Delayed healing
   D. Adult-onset diabetes

20. Corticosteroids are naturally secreted by which of the following?
   A. Thymal cortex – outer zone
B. Adrenal cortex – outer zone
C. Adrenal cortex – inner zone
D. Thymal cortex – inner zone

21. Glucocorticoids inhibit all but which of the following cells of inflammation?
   A. Red blood cells
   B. Macrophages
   C. Lymphocytes
   D. Mast cells

22. Which of the following minimizes local side effects associated with use of inhaled corticosteroids?
   A. Use a spacer device
   B. Rinse mouth after each treatment
   C. Prescribe the lowest effective dose
   D. All of the above

23. Which surfactant preparation is derived from the lung of a calf?
   A. Survanta
   B. Curosurf
   C. Dornase Alfa
   D. Formoterol

24. Aerosol therapy via ultrasonic nebulization has been ordered for the purpose of sputum induction. The patient has thick, copious secretions with frequent mucous plugging. Given that the patient is also asthmatic, what modification of the order should the CRT recommend?
   A. Continue with the ultrasonic order
   B. Add Mucomyst to the ultrasonic nebulizer
   C. Add a bronchodilator to the ultrasonic nebulizer
   D. Use a small-volume nebulizer with a bronchodilator and Mucomyst
25. A pediatric pulmonologist prescribes Singulair to a 10-year-old female with asthma. What recommendations would you give to this child and her parents?
   A. Take a 4 mg tablet every morning
   B. Take a 10 mg tablet daily
   C. Take a 5 mg tablet daily
   D. Take a 4 mg packet of granules every evening

26. Mucomyst should not be aerosolized with which of the following due to incompatibility?
   A. Tetracycline
   B. Erythromycin
   C. Amphotericin B
   D. All of the above

27. Which of the following statements concerning Mucomyst is NOT correct?
   A. It is a mucolytic
   B. It can be used to treat Advil overdose
   C. It can be administered directly into an endotracheal tube
   D. It has a bad odor.

28. Which of the following should not be recommended for treating severe asthma?
   A. Cromolyn Sodium
   B. Atrovent
   C. Vanceril
   D. Albuterol

29. The equation describing the relationship between the internal pressure of a bubble, its surface tension, and the radius is:
   A. Fick’s Law
   B. Starling’s Law
   C. Venturi’s principle
   D. Laplace's Law
30. An asthmatic patient is about to be discharged from the hospital. What information must the CRT give the patient before the patient leaves the hospital?
   A. How to avoid asthma triggers
   B. How to use metered-dose inhalers (MDI)
   C. How to determine which peak flow meter test is best
   D. All of the above

31. Which of the following is an indication for exogenous surfactant therapy?
   A. Prevention of sudden infant death syndrome in premature infants
   B. Prevention of RDS in low birth weight infants
   C. Rescue treatment for bronchopulmonary hyperplasia
   D. Rescue treatment for asthma

32. Acetylcysteine may be delivered by which of the following routes?
   A. Oral
   B. Aerosol
   C. Topical (direct instillation)
   D. All of the above

33. All but which of the following slow the rate of mucociliary transport?
   A. Cigarette smoking
   B. Beta agonists
   C. COPD
   D. Hypoxia

34. Which of the following occur during an asthma attack?
   A. Bronchospasm
   B. Increased secretions
   C. Mucosal edema
   D. All of the above
35. Which of the following are methods of producing natural surfactants?
   A. Cloning
   B. Use of amniotic fluid
   C. Pleural wash
   D. Acid-Base balance

36. Which of the following drugs breaks down the DNA of infected secretions in patients with cystic fibrosis?
   A. Acetylcysteine
   B. Pancreatic dornase
   C. Dornalse alfa
   D. Fenoterol

37. When administering Survanta as a prevention therapy to RDS, a premature infant less than 1250 grams should be given the drug how long after birth?
   A. 15 minutes after birth
   B. 1 hour after birth
   C. 6 hours after birth
   D. 48 hours after birth

38. Adrenergic bronchodilators mimic the actions of:
   A. Acetylcholine
   B. Penicillin
   C. Epinephrine
   D. norepinephrine

39. Relaxation of smooth airway muscle in the presence of reversible airflow obstruction is a general indication for the use of:
   A. Adrenergic bronchodilators
   B. Anti-infective agents
   C. Steroids
   D. Mucolytics
40. Disease states that could benefit from the use of adrenergic bronchodilators include which of the following?
   I. Asthma  
   II. Bronchitis  
   III. Emphysema  
   IV. Bronchiectasis  
   V. Pleural effusion  
   A. II, IV, and V only  
   B. I, II, II, and IV only  
   C. I, II, III, IV, and V  
   D. I and III only

41. Short-acting B2 agonists are indicated for:
   A. relief of acute reversible airflow obstruction  
   B. maintenance of bronchodilation  
   C. thinning of secretions  
   D. reduction of airway edema

42. Your patient is diagnosed with persistent asthma. Which type of drug would you recommend for maintenance bronchodilation and control of bronchospasm?
   A. Long-acting adrenergic agent  
   B. Alpha-adrenergic agent  
   C. Mucolytic agent  
   D. Short-acting adrenergic agent

43. Your patient presents with post-extubation stridor. You recommend racemic epinephrine for its:
   A. short-acting B2-adrenergic effect  
   B. long-acting B2-adrenergic effect  
   C. B1-adrenergic effect  
   D. alpha-adrenergic vasoconstricting effect

44. You enter the room of a 2-year-old patient who presents with the characteristic “barking cough” found with croup. Once the diagnosis is confirmed, you may recommend which of the
following medications to help provide relief from subglottic swelling?
A. terbutaline
B. racemic epinephrine
C. salmeterol
D. albuterol

45. In a patient who is receiving large doses of catecholamines, you may expect to see all of the following side effects except:
A. relaxation of bronchial smooth muscle
B. diuresis
C. tachycardia
D. increase blood pressure

46. Levalbuterol is:
A. the single (R)-isomer of albuterol
B. an equal mixture of (R)- and (S)-isomers
C. the same as racemic epinephrine
D. the same as albuterol.

47. Epinephrine stimulates which sites?
I. Alpha
II. B1
III. B2
IV. Cholinergic
A. IV only
B. I, II, and III only
C. II, III, and IV only
D. II only

48. Epinephrine would be indicated for all of the following except:
A. systemic hypersensitivity reactions
B. acute asthma episodes
C. cardiac stimulation
D. treatment of infections

49. Racemic epinephrine comes in what percent solution?
A. 1.25%
B. 2.25%
C. 5.0%
D. 0.05%

50. The keyhole theory indicates that the larger the side-chain attachment to a catechol base, the:
   A. more easily it is metabolized
   B. more easily it is broken down by COMT
   C. greater B2 specificity
   D. shorter the duration of action

51. Catecholamines are inactivated by:
   A. COMT
   B. epinephrine
   C. ATP
   D. ACTH

52. Catecholamines should not be given by which of the following routes:
   A. subcutaneous
   B. oral
   C. injection
   D. inhalation

53. Albuterol is available in which of the following forms?
   I. syrup
   II. nebulizer solution
   III. MDI
   IV. oral tablets
   V. DPI
   A. I, II, and V only
   B. III, IV, and V only
   C. I, II, III, IV and V
   D. II and III only

54. Salmeterol is:
A. another name for albuterol  
B. available in nebulizer solution only  
C. a long-acting B-adrenergic  
D. indicated for acute asthma attacks

55. Long-acting B2 agonists are indicated for:  
A. mucus reduction  
B. treating infections  
C. maintenance therapy for asthmatics  
D. acute asthma attacks

56. The bronchodilating action of adrenergic drugs is due to stimulation of:  
A. cholinergic receptors  
B. B1 receptors  
C. B2 receptors  
D. alpha receptors

57. B1 receptor stimulation will:  
A. provide upper airway decongestion  
B. increase heart rate and contractile force  
C. relax bronchiole smooth muscles  
D. cause vasoconstriction

58. Smooth muscle relaxation most likely occurs as a result of:  
A. an increase in intracellular cAMP  
B. an increase in ATP  
C. a decrease in ATP  
D. a decrease in intracellular cAMP

59. Inhalation is the preferred route of administering catecholamines for which of the following reasons?  
I. rapid onset of action  
II. smaller dosage used  
III. reduced side effects  
IV. drug is delivered to target organ  
V. safe and painless route
A. III and IV only  
B. I, III, and V only  
C. I, II, III, IV, and V  
D. I and II only

60. Continuous nebulization of inhaled B agonists has been used for:  
A. pneumonia  
B. cystic fibrosis  
C. emphysema  
D. severe asthma

61. The dosage recommended by NAEPP EPR 2 for continuous nebulization of adrenergic agents is:  
A. 8 to 12 mg/hr  
B. 10-15 mg/hr  
C. 20-30 mg/hr  
D. 5 to 8 mg/hr

62. Your patient is receiving her third continuous nebulizer of albuterol (15 mg/hr). Which potential complications should you be on the lookout for?  
I. hypokalemia  
II. cardiac arrhythmias  
III. hyperglycemia  
IV. PVCs  
V. tremor  
A. I, II, and V only  
B. I, II, IV, and V only  
C. I, II, III, IV, and IV  
D. II and IV only

63. All of the following are side effects that should be monitored in your patient when using sympathomimetic aerosol except:  
A. muscle tremor  
B. bradycardia  
C. tachycardia
D. insomnia

64. You are ordered to extubate a mechanically ventilated patient who has recently undergone open heart surgery. On post-extubation assessment, you note that the patient has stridor with mild retractions. Pharmacologically, you would recommend:
   A. alpha adrenergic
   B. anticholinergic
   C. sympatholytic
   D. B2 adrenergic

65. Which is the only B-agonist formulation that is a single isomer and is approved by the FDA for aerosol delivery?
   A. albuterol
   B. levalbuterol
   C. tiotropium
   D. epinephrine

66. What is the rationale for using the single-isomer agent levalbuterol instead of racemic albuterol?
   A. the (S)-isomer is a weak bronchodilator
   B. The (R)-isomer is thought to cause tachycardia
   C. The (R)-isomer is thought to cause tremors
   D. the (S)-isomer is thought to promote bronchoconstriction

67. What is the main difference between salmeterol and formoterol?
   A. formoterol has slower onset and peak effect compared with salmeterol
   B. formoterol is more B2 specific than salmeterol
   C. formoterol has a quicker onset and peak effect than salmeterol
   D. formoterol is a short-acting; salmeterol is long-acting

68. What is the indication for use of a short-acting B agonist in asthma?
A. rescue therapy in reversible airflow obstruction  
B. antiinflammatory agent in reversible airflow obstruction  
C. antiinfective agent in respiratory infections  
D. maintenance therapy in reversible airflow obstruction

69. Which procedure would tell you that a patient has reversible airway obstruction?  
   A. pre- and postpulmonary function tests  
   B. pulse oximetry  
   C. wheezing on auscultation  
   D. inspection: patient SOB when walking < 25 ft

70. You receive an order to administer 5 ml of albuterol by SVN. You would:  
   A. have your supervisor administer the treatment  
   B. call the physician to confirm the medication dose  
   C. give 0.5 ml of medication because that is probably what the doctor meant to write  
   D. confirm the order on the chart and administer as directed

71. Which of the following agents will reverse the effects of a benzodiazepine such as Valium?  
   A. Amitriptyline (Elavil)  
   B. Alteplase (Activase)  
   C. Flumazenil (Romazicon)  
   D. Atropine

72. What acid-base imbalance would be seen in a person who has overdosed on barbiturates?  
   A. Respiratory alkalosis  
   B. Respiratory acidosis  
   C. Metabolic acidosis  
   D. Metabolic alkalosis

73. Nonsteroidal anti-inflammatory drugs (NSAID) should be used cautiously in patients with:  
   A. A history of cardiac arrhythmias
B. A history of gastric ulcers
C. A history of alcohol abuse
D. A history of CVA

74. The first priority in treating a patient who has just overdosed on Barbiturates is:
   A. Provide circulatory support
   B. Drug elimination
   C. Provide ventilatory support
   D. Prevent dehydration

75. You are administering an aerosolized bronchodilator to your patient. Her pretreatment pulse was 85 bpm. You would stop the treatment if her pulse reached:
   A. 100
   B. 110
   C. 120
   D. 90

76. A patient with glottic edema is in mild distress. Which of the following medications would be of benefit in this situation?
   A. ipratropium bromide
   B. racemic epinephrine
   C. theophylline
   D. albuterol

77. The only anticholinergic that is approved by the FDA for aerosolization is:
   A. albuterol sulfate
   B. glycopyrrolate
   C. atropine
   D. ipratropium bromide

78. Atrovent is approved for:
   A. thinning of dried secretions
   B. acute bronchoconstriction
   C. maintenance treatment of airflow obstruction in COPD
79. Combivent is a combination drug including which agents?
   A. serevent and atrovent
   B. albuterol and atrovent
   C. maxair and atrovent
   D. albuterol and serevent

80. Mucociliary slowing, bronchodilation, and increased heart rate are all a result of:
   A. adrenergic agents
   B. anticholinergic agents
   C. parasympathetic agents
   D. cholinergic agents

81. Quaternary ammonium compounds such as ipratropium:
   A. do not cross lipid membranes easily
   B. are distributed quickly throught the body when inhaled
   C. have no role in respiratory care
   D. are not effective as inhaled agents

82. Ipratropium agents may be indicated to treat:
   A. Allergic rhinitis
   B. Common cold
   C. Nonallergic rhinitis
   D. All of the above

83. Quaternary ammonium compounds cause bronchodilation by:
   A. stimulating cholinergic sites
   B. blocking adrenergic sites
   C. stimulating adrenergic sites
   D. blocking cholinergic sites

84. Patients using ipratropium aerosols should be instructed to avoid allowing the aerosol in contact with their:
   A. nose
85. Activating an Atrovent inhaler in the eye may cause:
   A. pupil dilation
   B. pupil constriction
   C. scarring of the cornea
   D. blindness

86. Cardiac effects of aerosolized ipratropium bromide include:
   A. increase blood pressure
   B. increase heart muscle contractility
   C. little or no effect
   D. increase heart rate

87. Drugs that competitively block the action of acetylcholine at parasympathetic postganglionic effector cell receptors are called:
   A. adrenergic agents
   B. antimuscarinic agents
   C. cholinergic agents
   D. muscarinic agents

88. The most common side effect of anticholinergic bronchodilators is:
   A. increase heart rate
   B. wheezing
   C. delirium
   D. dry mouth

89. Results of your patient’s PFT show that the peak flow rate increased the most when she inhaled an aerosolized sympathomimetic agent and an aerosolized parasympatholytic agent. You would recommend that she be given:
   A. Serevent DPI
B. Combivent MDI
C. Foradil DPI
D. Ventolin MDI

90. **What is the only once-a-day anticholinergic on the market?**
   A. ipratropium bromide
   B. glycopyrrolate
   C. tiotropium bromide
   D. atropine

91. **All of the following are true about ipratropium, except:**
   A. It can be combined with a B-agonist for maintenance bronchodilation in COPD.
   B. It is added to B-agonist in severe asthma episodes that do not respond to B-agonists alone.
   C. **It is a leukotriene modifier used to treat step 3 asthma.**
   D. It is a first-line choice of bronchodilator for COPD.

92. **10 ml of a drug contains 25 mg of active ingredient. How many ml are needed for a 5 mg dose?**
   A. 7 mL
   B. 2 mL
   C. 5 mL
   D. 4 mL

93. **A COPD patient is receiving a beta 2 agonist via a SVN. The RCP notes that the patient’s heart rate has increased from 75 bpm to 105 bpm during the treatment. What should the RCP do?**
   A. Continue the treatment and monitor the patient
   B. **Terminate the treatment and notify the physician**
   C. Have the patient use a MDI instead of the SVN
   D. Switch to a different beta 2 agonist

94. **A confused, combative resident of a skilled nursing facility was administered an excessive dose of Diazepam (Valium).** After
administration of the drug, the patient cannot be awakened. Which of the following drugs is indicated in this situation?

A. Triazolam (Halcion)
B. Edrophonium (Tensilon)
C. Flumazenil (Romazicon)
D. Naloxone (Narcan)

95. A mechanically ventilated patient who has been paralyzed with a neuromuscular blocking agent should be given a sedative agent for what reason?

A. To relieve the patient’s anxiety
B. To control pain
C. To keep patient synchronized with the ventilator
D. To sustain the paralysis

96. A mechanically ventilated premature neonate (gestational age 31 weeks) is receiving Beractant (Survanta) for treatment of RDS. After administration of the drug, the neonate’s work of breathing decreases and chest x-ray improves. Which of the following should the RCP recommend?

A. Increase the FiO2 on the mechanical ventilator
B. Wait 24 hours, and administer Ribavirin via the SPAG II
C. Suggest that ventilation via the oscillator be initiated
D. Decrease the PIP on the mechanical ventilator

97. A neonate is to be discharged with apnea monitoring in the home. Which of the following drugs would be prescribed to treat this condition?

A. Beractant
B. Nitric Oxide
C. Montelukast
D. Caffeine citrate

98. A patient had a bronchoscopy procedure and biopsy taken of a suspected lung tumor. After the biopsy, uncontrolled bleeding occurs. What should be given to control the bleeding?
A. Instill epinephrine through the bronchoscope at the site of the bleeding  
B. Administer nebulized Albuterol by small volume nebulizer  
C. Administer heparin if intravenous line  
D. Administer lidocaine (Xylocaine) by an intravenous line

99. A patient is admitted to the pulmonary floor with the diagnosis of Pneumocystis carinii pneumonia. After evaluating the patient, the RCP should suggest which of the following drugs to nebulizer for this patient?  
   A. Gentamicin  
   B. Pentamidine Isethionate  
   C. Amphotericin B  
   D. Penicillin G

100. A patient is being resuscitated after a cardiac arrest. The resuscitation effort has been in progress for an extended time. The patient might benefit from which of the following at this time?  
   A. Administration of a continuous lidocaine drip  
   B. Administration of Morphine sulfate  
   C. Administration of three defibrillation efforts at 300 joules  
   D. Administration of sodium bicarbonate

101. A patient presents to the ER after numerous bee stings. The patient is severely hypotensive and is determined to have anaphylaxis. Which of the following drugs would you recommend to treat this patient?  
   A. Lidocaine  
   B. Dopamine hydrochloride (Inotropin)  
   C. Sodium bicarbonate  
   D. Nitroprusside (Nipride)

102. A patient presents to the ER with hypotension, episodes of syncope and a heart rate of 42 beats/min. Which of the following drugs would you recommend to treat this patient?  
   A. Atropine
B. Propranolol  
C. Digoxin  
D. Lidocaine

103. A patient receiving both Azmacort and Proventil is sent home with orders for both Azmacort and Proventil MDIs. What is most critical that the patient understand?
   A. That Proventil is also available in a nebulization solution  
   B. That use of the MDIs may elicit a cough  
   C. That Azmacort should be discontinued after wheezing stops  
   D. That Azmacort will not help in acute attack

104. A patient whose cholinergic activity (suppression of the PNS) in the lungs was blocked would be expected to experience which response?
   A. Decreased pulmonary blood flow  
   B. Bronchoconstriction  
   C. Hypersecretion of the goblet cells  
   D. Bronchodilation

105. A physician has ordered a 0.20 ml dose of Isuprel (1:200) to be given. How many mg of active ingredient is this?
   A. 1 mg  
   B. 1.5 mg  
   C. .05 mg  
   D. 2 mg

106. A physician orders 3 mg of dexamethasone. If it is available in a solution of 4mg/ml, how many milliliters should you give?
   A. 0.75 ml  
   B. 3 ml  
   C. 0.85 ml  
   D. 8.5 ml
107. A stock bottle of racemic epinephrine has a concentration of 2.25%. How much of this solution is needed in order to obtain 10 mg of active ingredient?
   A. 0.22 ml
   B. 0.75 ml
   C. 0.44 ml
   D. 0.33 ml

108. Aerosol racemic epinephrine is helpful in laryngeal edema and bleeding because it stimulates which of the following receptors?
   A. Beta 1
   B. Alpha
   C. Beta 2
   D. All of the above

109. An adult male asthmatic is receiving 1.25 mg of a.5% solution of Proventil with 3 cc of normal saline via a SVN QID. His wheezing diminishes but does not completely clear following the treatment. What should the RCP recommend in this situation?
   A. Increase the dose of Proventil to 2.5 mg
   B. Increase the frequency of the therapy to Q2 hours
   C. Change to a 1% solution of Proventil
   D. Change to Alupent via a MDI

110. An asthmatic patient is about to be discharged from the hospital. What information must the CRT give the patient before the patient leaves the hospital?
   A. How to avoid asthma triggers
   B. How to use metered-dose inhalers (MDI)
   C. How to determine which peak flow meter test is best
   D. All of the above

111. During therapeutic bronchoscopy for removal of secretions, the pulmonologist is having difficulty aspirating secretions
because of their extremely thick, tenacious character. To aid in removal you would recommend?
A. Epinephrine  
B. Mucomyst  
C. Xylocaine  
D. Albuterol

112. If nebulized Mucomyst is ordered for an asthmatic patient, what other medication(s) should be simultaneously administered?
A. Neo-Synephrine  
B. Cromolyn sodium  
C. Antihistamine  
D. Levalbuterol

113. In ACLS, which of the following drugs can be safely and effectively administered via the endotracheal tube?
A. Atropine  
B. Lidocaine  
C. Epinephrine  
D. All of the above

114. In order to facilitate endotracheal intubation, a patient is paralyzed with Pavulon. Following intubation, you wish to reverse the paralysis. You would administer:
A. Succinylcholine chloride  
B. Any of the above  
C. Atropine  
D. Neostigmine bromide (Prostigmin)

115. In which of the following anticholinergic bronchodilators would the RCP give instructions to patient for proper DPI use?
A. Spiriva  
B. DuoNeb  
C. Atrovent  
D. Combivent
116. Positive inotropic drugs have which of the following effects?
   A. Increased strength of cardiac contraction
   B. Decreased electrical conductivity of the heart
   C. Decreased heart rate
   D. Decreased strength of cardiac contraction

117. Naloxone (Narcan) would be an affective antagonist for which of the following?
   A. Morphine
   B. Codeine
   C. Heroin
   D. All of the above

118. Of the following sedative agents, which are considered barbiturates?
   A. Pentobarbital sodium (Nembutal)
   B. Phenobarbital (Luminol)
   C. Thiopental sodium (Pentothal)
   D. All of the above

119. Sputum induction has been ordered for a newly admitted patient with tuberculosis. The patient is a 37-year-old male in no acute distress. Which of the following techniques should the RCP attempt first to collect the sputum?
   A. Use 6 cc of 20% mucomyst and SVN
   B. Use a nasal trumpet and NT suction the patient
   C. Use a bronchodilator and encourage vigorous coughing
   D. Use a hypertonic saline solution and SVN

120. The physician has just determined airway responsiveness to bronchodilator therapy in a COPD patient. He asks the RCP to recommend a bronchodilator for long-term use. Which of the following bronchodilators should the RCP recommend at this time?
   A. Ipratropium bromide
   B. Bitolteral sulfate
   C. Metaproterenol sulfate
D. Albuterol sulfate

121. Which disease state is consistently treated with aerosolized antibiotics such as TOBI?
   A. Acute bronchitis
   B. Asthma
   C. Cystic fibrosis
   D. COPD

122. Which of the following adrenergic bronchodilators is available in both a SVN and MDI formulation?
   A. Levalbuterol
   B. Albuterol
   C. Epinephrine
   D. All of the above

123. Which of the following are considered effective anti-tuberculosis drugs?
   A. Isoniazid
   B. Streptomycin
   C. Ethambutol
   D. All of the above

124. Which of the following best describes Cromolyn sodium (Intal)?
   A. Available as MDI and SVN
   B. SVN solution is available as a 20 mg vial
   C. Is considered an asthma controller drug
   D. All of the above

125. Which of the following best describes Dornase alfa?
   A. Trade name is Pulmozyme
   B. Available as a SVN solution in a 2.5 mg ampule
   C. Is indicated as a mucolytic for patients with cystic fibrosis
   D. All of the above
126. Which of the following can be used to decrease the viscosity of secretions?
   A. Acetylcysteine
   B. Dornase alfa
   C. Normal saline
   D. All of the above

127. Which of the following corticosteroids are available in a MDI formulation?
   A. Beclomethasone (Qvar)
   B. Triamcinolone acetonide (Azmacort)
   C. Fluticasone propionate (Flovent)
   D. All of the above

128. Which of the following is an inotropic agent useful in the treatment of hypotensive patients who have organic heart disease (heart failure)?
   A. Procainamide
   B. Atropine sulfate
   C. Dobutamine hydrochloride (Dobutrex)
   D. Nitroglycerin

129. Which of the following is indicated for a patient in hypertensive crisis?
   A. Dopamine hydrochloride (Intropin)
   B. Dobutamine hydrochloride (Dobutrex)
   C. Nitroprusside (Nipride)
   D. Sodium bicarbonate

130. Which of the following is the most appropriate first-line pharmacologic agent for a COPD patient with severe hypoxemia?
   A. Furosemide
   B. Xopenex
   C. Mannitol
   D. Oxygen
131. Which of the following is true regarding Morphine sulfate?
   A. This drug can lead to respiratory depression if high doses are given
   B. This drug is used to treat bronchospasm
   C. This drug causes vasoconstriction and should not be given to patients with pulmonary edema
   D. This drug cannot be reversed and should be avoided in COPD patients

132. Which of the following is true regarding the nondepolarizing blocker Pancuronium bromide (Pavulon)?
   A. This drug has a long duration of action
   B. This drug can produce a cardiac arrhythmia
   C. This drug can be reversed with Neostigmine bromide (Prostigmin)
   D. All of the above

133. Which of the following osmotic diuretics are indicated to reduce cerebral edema?
   A. Chlorothiazide (Diuril)
   B. Mannitol (Osmitrol)
   C. Furosemide (Lasix)
   D. None of the above

134. Which of the following pharmacologic agents is indicated in the treatment of a patient with status asthmaticus?
   A. Levalbuterol
   B. Aminophylline
   C. Methylprednisolone (Solu-Medrol)
   D. All of the above

135. Which of the following reactions may occur when using aerosolized corticosteroids for a local effect?
   A. Adult-onset diabetes
   B. Pulmonary aspergillosis
   C. Oral fungal infections
   D. Delayed healing
136. Which of the following should be stressed when instructing a patient on systemic corticosteroids in the use of aerosolized steroids?
   A. Use the MDI steroids only when symptoms are severe
   B. Taper systemic steroid use gradually under a physician’s supervision
   C. Alternate MDI steroids with other anti-asthmatic drugs
   D. Adjust dosage and frequency according to how it “feels”

137. While recording the results of an aerosolized Beta 2 agonist treatment, the RCP erroneously wrote the trade name of the wrong Beta 2 agonist. What should the RCP do in this situation?
   A. Use correction fluid on the wrong trade name and write in the name of the correct medication
   B. Leave the trade name written, because it is also classified as a Beta 2 agonist
   C. Erase the wrong trade name and write in the correct drug
   D. Draw a horizontal line through the incorrect trade name, print “error” above it, and continue charting

138. You are called to the ER to intubate a MVA victim with numerous injuries including chest wall trauma. The patient is very combative. Which of the following drugs would be helpful in performing the intubation?
   A. Succinylcholine chloride (Anectine)
   B. Diazepam (Valium)
   C. Midazolam (Versed)
   D. All of the above

139. You receive an order to administer a sympathomimetic bronchodilator to a patient with pneumonia. The patient has never needed prior bronchodilator therapy. Common side effects to be aware of include:
   A. Nervousness
   B. Trembling hands
   C. Headache
D. All of the above

140. The main clinical use of Succinylcholine (Anectine) is to relax muscles during:
   A. Surgery
   B. Laryngeal spasm
   C. Intubation
   D. Exercise

141. The only depolarizing drug is which of the following?
   A. Tubocurarine
   B. Doxacurium
   C. Pancuronium
   D. Succinylcholine

142. Which of the following barbiturates would be used to control seizures?
   A. Methohexital
   B. Pentobarbital
   C. Phenobarbital
   D. Thiopental

143. Neuromuscular blocking agents are clinically used for all but which of the following?
   A. Relieve severe pain
   B. Muscle paralysis during surgery
   C. To facilitate mechanical ventilation
   D. Endotracheal intubation

144. Which of the following describes the mode of action of local anesthetics?
   A. Produce nerve conduction block by blocking sodium channels
   B. Block transmission of pain signals to the brain
   C. Produce nerve conduction block by increasing calcium ions
D. Provide transmitters that attach to nerves and block signals

145. The preferred route of administration for neuromuscular blocking agents is which of the following?
   A. IM
   B. Oral
   C. Aerosol
   D. IV

146. Diuretics are used to treat heart failure and lower blood pressure by:
   A. Reducing the plasma volume
   B. Maintaining blood volume
   C. Causing vasoconstriction
   D. Increase the number of RBCs

147. Patients receiving loop diuretics should have their _________ levels monitored.
   A. Magnesium
   B. Potassium
   C. Bleeding time
   D. Bicarbonate

148. All but which of the following statements are true about diuretics?
   A. Diuretics increase urine output
   B. Diuretics act directly on the kidney
   C. Diuretics eliminate excess fluid from the body
   D. Diuretics are all alike in their mode of action

149. Muscle paralysis caused by nondepolarizing blocking agents can be reversed by which of the following?
   A. Spironolactone
   B. Narcan
   C. Neostigmine
   D. Pavulon
150. Which of the following describes Succinylcholine (Anectine):
   A. It is long lasting
   B. It can be reversed
   C. Decreases sodium potassium levels
   D. Is contraindicated for patients with head trauma

151. Which approach is usually more effective in pain management?
   A. Using maximum doses of pain relievers
   B. Estimating a patient’s level of pain while he is sleeping
   C. Using a combination of pain medications
   D. Always using a narcotic pain reliever

152. Carbonic anhydrase inhibitors can be used to stimulate respirations by creating which of the following acid-base disorders?
   A. Metabolic acidosis
   B. Metabolic alkalosis
   C. Respiratory acidosis
   D. Respiratory alkalosis

153. Which of the following drugs are used as reversal agents for Opioid drugs?
   A. Propranolol (Inderal)
   B. Methylxanthine
   C. Propofol (Diprivan)
   D. Naloxone (Narcan)

154. Which of the following are uses of Barbiturates?
   A. Used as a hypotonic to induce sleep
   B. Used to relieve pain
   C. Used to stimulate respirations
   D. Used to treat anxiety
155. A patient is scheduled to have a FOB (Fiberoptic bronchoscopy) due to hemoptysis. The patient is given Versed prior to the procedure. Which of the following should be monitored during the procedure?
   A. Pulse oximetry
   B. Endotracheal tube placement
   C. ET tube cuff pressure
   D. Continuous ECG monitoring

156. Which group of diuretics are the most potent?
   A. Osmotic diuretics
   B. Loop diuretics
   C. Carbonic anhydrase inhibitors
   D. Thiazide diuretics

157. You are caring for a patient who has sustained a severe closed head injury. The ICP monitor reads a pressure of 38 mmHg. To reduce the cerebral edema and lower the ICP, you would recommend which diuretic?
   A. Amiloride
   B. Lasix
   C. Metolazone
   D. Mannitol

158. CNS and respiratory stimulant drugs are used to treat:
   A. Anxiety
   B. Narcolepsy
   C. Myasthenia gravis
   D. Depression

159. A patient is scheduled for a surgery that will require a neuromuscular blocking drug to be given. Upon examination, you find that the patient has bilateral expiratory wheezing, has increased expiratory time, and has small amounts of mucoid secretions. What neuromuscular drug would you NOT recommend for this patient?
   A. Norcuron
B. D-tubocurarine
C. Anectine
D. Valium

160. All of the following are considered to be therapeutic uses for narcotic analgesic EXCEPT:
A. Muscular paralysis
B. Pain relief
C. Sedation
D. Relief of dyspnea caused by advanced respiratory failure
So there you have it! Wow, you made it all the way to the end — that’s impressive!

By doing so, that lets me know that you have what it takes to become a successful Respiratory Therapist.

You’re definitely on the right track, so keep working and studying hard and you’ll be just fine.

And not to worry — we’re going to be with you every step of the way along your journey.

Thanks again for reading through this study guide! If you thought that these questions were helpful, you should definitely consider checking out our TMC Test Bank.

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Johnny Lung

Johnny Lung RRT
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This way, over time, you can master every single topic that you need to know to increase your chances of passing the exam on your first (or next) attempt.

Let's go through an example so that you can see what I'm talking about.

Here's an example of a TMC Practice Question:

A 34-year-old female patient just arrived to the emergency room and the nurse is unable to start an intravenous line during CPR. The doctor wants to administer Naloxone because it is believed that the patient is suffering from a narcotic overdose. Which of the following is an appropriate alternative route of administration?

A. Through the feeding tube
B. Aerosolized via SVN
C. Through the nasogastric tube
D. Through the endotracheal tube
Do you know the answer? Not to worry, let’s break it down!

**The explanation that you get along with each practice question is the most important part!**

To get this one correct, first and foremost, you needed to know that Naloxone is another name for Narcan. Narcan is given to patients that are having a narcotic overdose — for example — for drugs like morphine.

You also had to know that some medications can be instilled directly down endotracheal tube. To make it easy to remember, you can learn the NAVEL mnemonic.

**Here are the drugs:**

- **N** – Naloxone (Narcan)
- **A** – Atropine
- **V** – Vasopressin
- **E** – Epinephrine
- **L** – Lidocaine

Remember that when directly instilling medications down the ET tube, you have to administer 2–2.5 times more of the medication than the normal dose in order for it to be effective.

I can almost guarantee that you will see a question about Narcan (naloxone) on the exam, so prepare accordingly. None of the other answer choices really make sense in this situation, so we know that the correct answer has to be D.

**The correct answer is:** D. Through the endotracheal tube

Well, what did you think? Do you see how valuable this information can be??
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