### Introduction

1. Which product avoids 1\textsuperscript{st} pass hepatic metabolism and allows nicotine to be slowly released over a number of hours.  
   a. Polacrilex Gum  
   b. Commit Lozenge  
   c. Nicotine Transdermal (Patch) System  
   d. All of the products avoid 1\textsuperscript{st} pass hepatic metabolism  
   e. None of the products avoid 1\textsuperscript{st} pass hepatic metabolism

2. Which of the following is **one of the six rights** of medication?  
   a. Client  
   b. Drug  
   c. Dose  
   d. A & B  
   e. A, B & C

3. Which of these is the stem for β blockers?  
   a. –olol  
   b. –alol  
   c. –afil  
   d. –pril  
   e. None of the above

4. Which of the following is the stem for ACEI?  
   a. –olol  
   b. –alol  
   c. –icillin  
   d. –pril  
   e. None of the above

5. Which of the following is the ARB stem?  
   a. –olol  
   b. –alol  
   c. –icillin  
   d. –pril  
   e. None of the above

6. Which of the following is the stem for 5-PDE inhibitors like Viagra?  
   a. –icillin  
   b. –alol  
   c. –afil  
   d. –pril  
   e. None of the above

### Therapeutics

7. Which of the following can increase the risk of having severe angina, or an MI, (a rebound effect) if suddenly stopped?  
   a. ACE inhibitors  
   b. Beta blockers  
   c. Corticosteroids  
   d. Opiates  
   e. Proton pump inhibitors

8. Which of these is a problem related to genetics?  
   a. Cystic fibrosis  
   b. Glucose 6-Phosphate Dehydrogenase Deficiency  
   c. Warfarin response  
   d. All of these  
   e. None of the above

9. Which of these may be an allergic reaction?  
   a. Urticaria  
   b. Stevens-Johnson syndrome  
   c. Angioedema  
   d. Bronchospasm  
   e. All the above

10. Which is associated with depression?  
    a. Antidepressants  
    b. Antibiotics  
    c. NSAIDs  
    d. Vitamins  
    e. Antihistamines

11. Before administering a medication, which of the following should you know?  
    a. Generic and Trade names  
    b. Purpose (indications)  
    c. Effects and ADRs  
    d. Onset and duration of activity  
    e. All of the above

### Kinetics

12. Metabolism may produce metabolites (daughters) that (are):  
    a. More or less toxic than parent  
    b. Have a new action or effect  
    c. More or less active than parent  
    d. Similar to the parent  
    e. All the above
13. The effects of 1st pass are greatest for drugs administered:
   a. Orally
   b. Topically
   c. Subcutaneously
   d. By intravenous injection
   e. By inhalation

14. Which of the following routes also has a type of 1st pass that significantly affects drugs?
   a. Inhalation
   b. SC injection
   c. IM injection
   d. IV injection
   e. Topical application

15. Which is an insignificant route of excretion, for the most part?
   a. Lungs (exhaled air)
   b. Kidneys (urine)
   c. Liver (bile)
   d. Skin (sweat)
   e. None of the above

16. Phase 1 reactions are:
   a. P450 mediated
   b. Mediated by membrane-bound enzymes
   c. REDOX reactions
   d. Often "activation" reactions for Phase II, creating sites for conjugation to occur
   e. All of the above

17. The elderly generally require lower doses or more careful monitoring because:
   a. Their livers are no longer synthesizing normal amounts of proteins including plasma proteins and metabolic enzymes
   b. Their kidney function is significantly reduced due to age
   c. Their cardiac function is often reduced leading to poor perfusion
   d. They have experienced alterations in body water and lean body mass
   e. All of the above

18. Chloramphenicol, an antibiotic, is known to cause "Grey" baby syndrome in neonates. This is because young babies are/have:
   a. Metabolically underdeveloped and lacking virtually all Phase 2 metabolism
   b. A strongly induced set of metabolic enzymes from mom
   c. On at least 10 different medications on average
   d. Non-functional kidneys & can’t excrete drugs
   e. All of the above

19. Acetylation is a type of Phase II conjugation reaction. There are people who genetically, are fast acetylators and others whose enzymes work slowly. In a fast acetylator, given a normal amount of Isoniazid, you would expect:
   a. Treatment failure
   b. Toxicity or “over dose”
   c. No effect
   d. Not enough information to answer
   e. INH will be metabolized slower than normal

20. Which of these is the muscarinic ligand?
   a. Acetyl choline
   b. Norepinephrine
   c. Epinephrine
   d. Dopamine
   e. Serotonin

21. P-GP (P-Glycoprotein) is an ATP binding cassette pump important in __?__
   a. Drug resistance in bacteria and animals
   b. Diseases, including Cystic Fibrosis
   c. The transport of metabolic products, nutrients and some drugs
   d. The blood brain barrier
   e. All the above

22. Genetic differences in the expression of receptors may result in __?__ to a given drug.
   a. Allergic reactions
   b. Tolerance
   c. Insensitivity
   d. All the above
   e. None of the above
23. Which of the following is a genetic difference that predisposes a person to drug-induced hemolytic anemia?
   a. Induction of Phase II enzymes
   b. Competition for plasma protein binding sites
   c. G6PD deficiency
   d. Grapefruit in the diet
   e. Cystic fibrosis

24. Which of the following is a genetic difference that predisposes a patient to treatment failure with Maraviroc (Selzentry)?
   a. G6PD deficiency
   b. Deficient CCR5 receptors
   c. CYP2C19 deficiency
   d. Poorly functioning CYP2C9 genotype
   e. Presence of the HLA-B 1502 genotype

25. Which of the following genetic differences predisposes a carbamazepine (Equetrol) patient to Steven's Johnson Syndrome?
   a. G6PD deficiency
   b. Deficient CCR5 receptors
   c. CYP2C19 deficiency
   d. Poorly functioning CYP2C9 genotype
   e. Presence of the HLA-B 1502 genotype

26. Which of the following is a genetic difference that predisposes a patient to treatment failure with Clopidogrel (Plavix)?
   a. G6PD deficiency
   b. Deficient CCR5 receptors
   c. CYP2C19 deficiency
   d. Poorly functioning CYP2C9 genotype
   e. Presence of the HLA-B 1502 genotype

27. Which of the following is a genetic difference that predisposes a patient to treatment failure with Warfarin (Coumadin)?
   a. G6PD deficiency
   b. Deficient CCR5 receptors
   c. CYP2C19 deficiency
   d. Poorly functioning CYP2C9 genotype
   e. Presence of the HLA-B 1502 genotype

28. Which of the following is a cholinergic (muscarinic) agonist indicated for non-obstructive urinary retention and neurogenic bladder?
   a. Atropine (Atropen)
   b. Bethanechol (Urecholine)
   c. Donepezil (Aricept)
   d. Neostigmine (Prostigmin)
   e. Pilocarpine (Isopto, Carpine, Salagen)

29. Which of the following is an Anti AChE indicated for Myasthenia gravis and as an antidote to non-depolarizing NMJ OD?
   a. Atropine (Atropen)
   b. Bethanechol (Urecholine)
   c. Donepezil (Aricept)
   d. Neostigmine (Prostigmin)
   e. Pilocarpine (Isopto, Carpine, Salagen)

30. Which of the following is an antimuscarinic with many indications including drying secretions and dilating pupil(s)? It is also added to hydrocodone to prevent abuse.
   a. Atropine (Atropen)
   b. Bethanechol (Urecholine)
   c. Donepezil (Aricept)
   d. Neostigmine (Prostigmin)
   e. Pilocarpine (Isopto, Carpine, Salagen)

31. Which of the following is an antimuscarinic indicated for motion sickness, to dry secretions, to induce obstetric amnesia, as an adjunct to ulcer therapy, and for pupil dilation?
   a. Dobutamine
   b. Dopamine
   c. Pancuronium (Pavulon)
   d. Scopolamine (Scopace, Transderm Scop)
   e. Succinylcholine (Anectine)

32. Which of the following is a non-depolarizing NMJ indicated as a skeletal muscle paralytic agent adjunct to general anesthesia and to aid intubation for mechanical ventilation?
   a. Dobutamine
   b. Dopamine
   c. Pancuronium (Pavulon)
   d. Scopolamine (Scopace, Transderm Scop)
   e. Succinylcholine (Anectine)
33. Which of the following is an alpha 2 agonist indicated for HT, chronic pain, alcohol & opiate withdrawal and has many off label uses?
   a. Clonidine
   b. Epinephrine
   c. Norepinephrine
   d. Oxymetazoline
   e. Phenylephrine

34. Which of the following is an alpha 1&2 agonist used mainly as a nasal decongestant for cold and allergy symptoms? It is also used to treat shock, etc.
   a. Clonidine
   b. Epinephrine
   c. Norepinephrine
   d. Phentolamine
   e. Phenylephrine

35. Which of the following is a β2 agonist indicated as a short-acting bronchodilator for asthma?
   a. Albuterol (Proventil)
   b. Atenolol (Tenormin)
   c. Isoproterenol (Isuprel)
   d. Propranolol (Inderal)
   e. Salmeterol (Serevent)

36. Which of the following is a β1 antagonist for HT, MI angina and congestive HF. It is the best selling drug in its class.
   a. Doxazosin (Cardura)
   b. Isoproterenol (Isuprel)
   c. Metoprolol (Lopressor, Toprol)
   d. Labetalol (Normodyne)
   e. Terbutaline (Brethaire)

37. Which of the following is an Alpha 1 antagonist indicated only for BPH?
   a. Doxazosin (Cardura)
   b. Labetalol (Normodyne)
   c. Metoprolol (Lopressor, Toprol)
   d. Phentolamine (Regitine, Oraverse)
   e. Tamsulosin (Flomax)

38. Which of the following is an α1,α2 antagonist used to protect against tissue necrosis when catecholamines are extravasated?
   a. Doxazosin (Cardura)
   b. Labetalol (Normodyne)
   c. Metoprolol (Lopressor, Toprol)
   d. Phentolamine (Regitine, Oraverse)
   e. Tamsulosin (Flomax)

39. Salmeterol can cause potentially fatal ___?___ because 1/6 of population have hypersensitive receptors (boxed warning).
   a. Tachycardia
   b. Psychosis
   c. Rebound bronchoconstriction
   d. Bleeding
   e. Blood dyscrasias

**Autocoids**

40. Which of the following is a 1st generation antihistamine and phenothiazine used PO, PR (suppository), and IV/IM to control a variety of allergic reactions including anaphylaxis (with epinephrine), dermographism and allergic conjunctivitis; PONV, pre-/post-op or obstetric sedation, general sedation, as a post op analgesic (with meperidine), and to prevent or treat motion sickness. Because it is sedating, for most indications, it is usually given at bedtime.
   a. Azelastine
   b. Chlorpheniramine
   c. Diphenhydramine
   d. Promethazine
   e. Buspirone

41. Which drug class names end in “sartan”?
   a. ARB
   b. ACEI
   c. 1st generation Antihistamine
   d. LOX inhibitor
   e. LT receptor blocker

42. Which drug class names end in “lukast”?
   a. ARB
   b. ACEI
   c. NSAID
   d. LOX inhibitor
   e. LT receptor blocker

43. Which of the following is a 5-PDE inhibitor used PO to treat erectile dysfunction taken SID approximately 1 hour before sexual activity?
   a. Aprotinin
   b. Montelukast
   c. Sildenafil
   d. Zafirlukast
   e. Zileuton
44. Zileuton differs from Zafirlukast in that Zileuton is a __?__.
   a. Beta blocker
   b. 5-Phosphodiesterase inhibitor
   c. 5-lipoxygenase inhibitor
   d. 3-Phosphodiesterase inhibitor
   e. Leukotriene receptor blocker

45. Which of the following is a LT receptor blocker for asthma?
   a. Zileuton
   b. Zafirlukast
   c. Benazepril
   d. Fexofenadine
   e. Ibuprofen

46. Which of the following is a cyclooxygenase (COX) inhibitor NSAID?
   a. Dexamethasone
   b. Misoprostol
   c. Chlorpheniramine
   d. Ibuprofen
   e. Promethazine

47. Which of the following is a synthetic corticosteroid anti-inflammatory?
   a. Misoprostol
   b. Dexamethasone
   c. Ibuprofen
   d. Valsartan
   e. Enalapril

48. Which of the following is a Prostaglandin E (PGE) analog used to reduce the risk of NSAID induced gastric ulcers?
   a. Buspirone
   b. Fluoxetine
   c. Misoprostol
   d. Montelukast
   e. Trazodone

49. H1 antagonists are known as __?__
   a. Anti Migraine
   b. Antidepressants
   c. Antihistamines
   d. Antihypertensive agents
   e. Gastric acid reducers

50. H2 antagonists are known as __?__
   a. Antihistamines
   b. Antidepressants
   c. Antihypertensives
   d. Anti Migraine
   e. Gastric acid reducers

51. Loratadine has a long half-life, therefore it is administered less frequently than 1st generation antihistamines like __?__
   a. Azelastine
   b. Buspirone
   c. Diphenhydramine
   d. Fluoxetine
   e. Valsartan

52. Vicodin is hydrocodone compounded with __?__.
   a. Morphine
   b. Acetaminophen
   c. Aspirin
   d. Atropine
   e. Ibuprofen

53. Which of the following is a C-V if compounded with atropine (C-II without). It is a congener of meperidine used PO as an antidiarrheal. The t ½ is 12-14 hours.
   a. Duragesic
   b. Lomotil
   c. Revia
   d. MS-Contin
   e. Vicodin

54. Which of the following is a C-II synthetic opioid analgesic indicated for chronic pain, MI and cancer, including breakthrough pain associated with injuries and cancer. IV, IM, PO, TD, sublingual and buccal formulations are available and the t ½ is about 7 hours.
   a. Buprenorphine
   b. Fentanyl
   c. Hydrocodone
   d. Morphine
   e. Methadone
55. Which of the following is a C-II synthetic opioid analgesic available PO, IV, and IM for acute pain and obstetric or post-op analgesia? T ½ is about 3-4 hours. It has a boxed warning to not use longer than 12 weeks.
   a. Methadone
   b. Morphine
   c. Meperidine
   d. Fentanyl
   e. Buprenorphine

56. Which of the following is a C-II synthetic opioid analgesic available PO, IV, IM, SC (IM and SC not preferred) to treat chronic pain, opioid addiction & as an antitussive? T ½ is highly variable at 24-60 hours.
   a. Methadone
   b. Morphine
   c. Meperidine
   d. Fentanyl
   e. Buprenorphine

57. Which of the following is a Tissue necrosis factor alpha (TNF-a) inhibitor indicated to treat rheumatoid conditions? Only available SC.
   a. Etanercept
   b. Enbrel
   c. Hyaluronic acid
   d. All the above
   e. A & B only

58. Which of the following is a C-III synthetic opioid analgesic available sublingual (film and pills), TD, IM, and IV to treat moderate to severe chronic pain, opioid dependence and as a peri-op analgesic? T ½ is around 37 hours.
   a. Methadone
   b. Morphine
   c. Meperidine
   d. Fentanyl
   e. Buprenorphine

59. Which of the following is a synthetic opioid analgesic available PO, SC, IV, IM, PR, sublingual, and buccal for moderate to severe pain? T ½ is 5-7 hours. IT IS NOT CONTROLLED.
   a. Buprenorphine
   b. Meperidine
   c. Methadone
   d. Pentazocine
   e. Tramadol

60. Which of the following was originally isolated from Autumn crocus and has been used for centuries to treat gout?
   a. Allopurinol
   b. Colchicine
   c. Probenecid
   d. Rasburicase
   e. None of the above

Sedatives, hypnotics, anxiolytics, antidepressants and antipsychotics

61. Which of the following is “Valium”.
   a. Alprazolam
   b. Carbamazepine
   c. Diazepam
   d. Lorazepam
   e. Midazolam

62. Which of the following is Ambien?
   a. Buspirone
   b. Diazepam
   c. Phenobarbital
   d. Propranolol
   e. Zolpidem

63. Which of the following has a Boxed warning for respiratory depression.
   a. Alprazolam
   b. Carbamazepine
   c. Diazepam
   d. Lorazepam
   e. Midazolam

64. Which of the following is a 5HT1a agonist D2 antagonist non-sedating anxiolytic?
   a. Zolpidem
   b. Propranolol
   c. Phenobarbital
   d. Eszopiclone
   e. Buspirone

65. Which of the following is a PO AED indicated for epilepsy, trigeminal neuralgia, acute manic & mixed episodes of bipolar disorder.
   a. Carbamazepine
   b. Alprazolam
   c. Diazepam
   d. Lorazepam
   e. Midazolam
66. Which of the following is a PO AED indicated for epilepsy and bipolar disorder.
   a. Diazepam  
b. Lamotrigine  
c. Phenobarbital  
d. Lorazepam  
e. Divalproex

67. Which of the following is the TCA “Elavil”?  
   a. Alprazolam  
b. Amitriptyline  
c. Duloxetine  
d. Selegiline  
e. Clozapine

68. Which of the following is a PO TCA for MDD?
   a. Pamelor  
b. Cymbalta  
c. Remeron  
d. Paxil  
e. Zoloft

69. Which of the following is the TCA “Sinequan”?
   a. Doxepin  
b. Diphenhydramine  
c. Duloxetine  
d. Diazepam  
e. Divalproex

70. Which of the following is the TCA “Tofranil” given PO for MDD and childhood enuresis?
   a. Mirtazapine  
b. Fluoxetine  
c. Citalopram  
d. Imipramine  
e. Nortriptyline

71. Which of the following is an SNRI given PO and indicated to treat MDD, anxiety, fibromyalgia, and diabetic neuropathic pain?
   a. Selegiline  
b. Duloxetine  
c. Mirtazapine  
d. Sertraline  
e. Trazodone

72. Which of the following is “Effexor”?
   a. Trihexyphenidyl  
b. Paroxetine  
c. Chlorpromazine  
d. Venlafaxine  
e. Haloperidol

73. Which of the following is a TeCA given PO for MDD? Also used as an antiemetic.
   a. Trazodone  
b. Selegiline  
c. Mirtazapine  
d. Bupropion  
e. Duloxetine

74. Which of the following is an Anti-cholinergic (combination of atropine and diphenhydramine) indicated to treat PD and EPS? Available PO, IV and IM.
   a. Buspirone  
b. Bupropion  
c. Benztropine  
d. Benadryl  
e. None of the above

75. Which of the following is the SSRI “Zoloft”?
   a. Citalopram  
b. Escitalopram  
c. Fluoxetine  
d. Paroxetine  
e. Sertraline

76. Which of the following is an “Other” antidepressant used PO to treat MDD and SAD. The trade names have different indications and one is only used for smoking cessation.
   a. Alprazolam  
b. Bupropion  
c. Buspirone  
d. Trazodone  
e. Selegiline

77. Which of the following is “Seroquel”?
   a. Quetiapine  
b. Risperidone  
c. Olanzapine  
d. Haloperidol  
e. Clozapine

78. Which of the following is a high potency Atypical antipsychotic given PO to treat schizophrenia and bipolar disorder as well as irritability associated with autism?
   a. Quetiapine  
b. Risperidone  
c. Olanzapine  
d. Haloperidol  
e. Clozapine
79. ALL sedative hypnotics cause __?__, some more so than others. Think alcohol intoxication.
   a. A drug-induced amnestic state
   b. Renal failure
   c. Steven Johnson’s Syndrome
   d. Blindness
   e. Bad breath

80. Elderly patients with dementia-related psychosis are more likely to __?__ when given antipsychotics.
   a. Have kidney problems
   b. Have liver problems
   c. Have cardiovascular problems
   d. Die
   e. Improve

81. Which of the following is a local anesthetic and anti arrhythmic commonly used as an anesthetic for dental and minor surgery and for ventricular tachyarrhythmia control?
   a. Benzocaine
   b. Dantrolene
   c. Etomidate
   d. Lidocaine
   e. Thiopental

82. Which of the following is an Anti spasmodic indicated for chronic spasticity associated with spinal cord injury, cerebral palsy and multiple sclerosis as well as for malignant hyperthermia?
   a. Benzocaine
   b. Dantrolene
   c. Etomidate
   d. Baclofen
   e. Thiopental

83. Which of the following is a Non-barbiturate parenteral general anesthetic used as a hypnotic for induction of general anesthesia. It has no analgesic properties?
   a. Amidate
   b. Dantrolene
   c. Ketaset
   d. Diprivan
   e. Xylocaine

84. Which of the following is an Inorganic gas general anesthetic?
   a. Nitrous oxide (N₂O)
   b. Isoflurane
   c. Sevoflurane
   d. Propofol
   e. Ketamine

85. Isoflurane is a lung irritant and will cause laryngospasm and bronchospasm. It is contraindicated in __?__
   a. Asthmatics
   b. DMT2 patients
   c. The elderly
   d. Dentists
   e. Minor surgical procedures

86. Which of the following is a C-III non-barbiturate parenteral general anesthetic (it is an NMDA antagonist)? It is an excellent analgesic and is indicated as the sole anesthetic agent or as an adjunct especially with nitrous oxide.
   a. Amidate
   b. Dantrolene
   c. Ketaset
   d. Diprivan
   e. Xylocaine

87. Which of the following is a Non-barbiturate parenteral general anesthetic indicated as an IV sedative/hypnotic for fast induction and maintenance of anesthesia and for sedation? It is also used to induce coma.
   a. Amidate
   b. Dantrolene
   c. Ketaset
   d. Diprivan
   e. Xylocaine

88. Which of the following is a Halogenated volatile liquid general anesthetic indicated for in and outpatient induction and maintenance of general anesthesia?
   a. Diprivan
   b. Hypnovel, Versed
   c. Fentanyl
   d. Nitrous oxide
   e. Ultane
89. Fentanyl causes ___?___, so would be a poor option for obese patients.
   a. Chest wall rigidity
   b. Analgesia
   c. Induction
   d. B & C
   e. None of the above

90. Malignant hyperthermia is a risk associated with:
   a. Local anesthetics
   b. Volatile liquid and gaseous anesthetics
   c. Opioid analgesics
   d. Benzodiazepine sedative hypnotics
   e. None of the above

91. Neurodegenerative diseases

92. Which of the following is an Anti-NMDA and anti Alzheimer’s drug?
   a. Avonex, Rebif
   b. Aricept
   c. Namenda
   d. Rilutek
   e. Xenazine

93. Which of the following is interferon beta 1a, an immune modulator used to treat MS?
   a. Avonex, Rebif
   b. Aricept
   c. Namenda
   d. Rilutek
   e. Xenazine

94. Which of the following is Copaxone, a parenteral drug used in MS?
   a. Baclofen
   b. Dantrolene
   c. Glatiramer acetate
   d. Gabapentin
   e. Tizanidine

95. Which of the following is Kemstro, a GABA<sub>A</sub> agonist and anti spasmodic used to treat muscle spasticity in MS and spinal cord injuries?
   a. Baclofen
   b. Dantrolene
   c. Glatiramer acetate
   d. Gabapentin
   e. Tizanidine

96. Which of the following is Zanaflex, an Alpha2 agonist and anti spasmodic for the short-term treatment of muscle spasticity?
   a. Baclofen
   b. Dantrolene
   c. Glatiramer acetate
   d. Gabapentin
   e. Tizanidine

97. Which of the following is a Topical cream indicated for PNP? It is used off label to treat neuropathic pain associated with MS.
   a. Amitriptyline
   b. Capsaicin
   c. Carbamazepine
   d. Lamotrigine
   e. Phenytoin

98. Which of the following is a DA agonist used to treat restless leg syndrome and PD? It has a strange side effect of inducing compulsive behavior.
   a. Memantine
   b. Bromocriptine
   c. Modafinil
   d. Lamotrigine
   e. Ropinirole

99. Which of the following is a TCA indicated for MDD? It is used off label to treat neuropathic pain associated with MS.
   a. Amitriptyline
   b. Capsaicin
   c. Carbamazepine
   d. Lamotrigine
   e. Phenytoin

100. Which of the following is a C-II Psychostimulant for ADHD and narcolepsy?
   a. Aricept
   b. Adderall
   c. Actos
   d. Angiomiomax
   e. Allegra
101. Which of the following is a Selective NE reuptake inhibitor for ADHD?
   a. Atomoxetine  
   b. Amitriptyline  
   c. Amoxicillin  
   d. Adapalene  
   e. Amantadine

102. Which of the following is a C-IV used in adults (ONLY) suffering from sleepiness associated with narcolepsy, obstructive sleep apnea/hypopnea or shift work sleep disorder.
   a. Memantine  
   b. Modafinil  
   c. Macrobid  
   d. Midazolam  
   e. Metoprolol

103. Which of the following is a C-V AED indicated for PNP and diabetic neuropathic pain, partial onset seizures and fibromyalgia?
   a. Phenytoin  
   b. Phenobarbital  
   c. Pregabalin  
   d. Topiramate  
   e. Valproic acid

104. Donepezil (an anti AChE agent) should not be given with __?__. (both classes cause GI ulcers).
   a. Antibiotics  
   b. NSAIDS  
   c. Antihypertensives  
   d. Antihyperlipidemics  
   e. Anticoagulants

105. If no IV access to control status epilepticus, use intranasal, buccal, IM or PR__?__.
   a. Carbamazepine  
   b. Clonazepam  
   c. Phenobarbital  
   d. Midazolam  
   e. Anything on hand

Endocrine

106. Prednisone mimics a naturally occurring:
   a. Pineal gland hormone  
   b. Anterior pituitary hormone  
   c. Posterior pituitary hormone  
   d. Adrenal cortex hormone  
   e. Thyroid hormone

107. Dexamethasone is a synthetic __?__.
   a. Mineralocorticoid  
   b. Growth Hormone  
   c. Glucocorticoid  
   d. Glucagon  
   e. Thyroid hormone

108. Insulin is used to treat:
   a. Diabetes insipidus  
   b. Diabetes mellitus type 1 only  
   c. Diabetes mellitus type 2 only  
   d. Diabetes mellitus type 1 and some type 2  
   e. All of the above

109. Which of the following is pregnancy category X?
   a. Leuprolide  
   b. Somatropin  
   c. Bromocriptine  
   d. Melatonin  
   e. Levothyroxine

110. A patient taking alendronate, or any bisphosphonate, must be:
   a. Able to sit/stand for 30 minutes after administration  
   b. An elderly woman  
   c. Able to consume orange juice with the tablet  
   d. Bedridden  
   e. Able to understand instructions

111. Why shouldn’t patients taking Sildenafil take any form of a nitrate?
   a. P450 induction  
   b. P450 inhibition  
   c. (Risk of) Profound hypotension  
   d. (Risk of) Severe hypertension  
   e. Increased risk of ulcers

112. Glyburide (Micronase) is a sulfonylurea which means you must have a functioning __?__.
   a. Liver  
   b. Kidney  
   c. Lung  
   d. Pancreas  
   e. Gall bladder

113. The acronym NPH stands for:
   a. Non-Protein Heparin.  
   b. Non Pheromone Hormone  
   c. Neutral Protamine Hagedorn  
   d. Nasty Proliferating Hepatitis  
   e. None of the above
114. Metformin is an antihyperglycemic drug used as an adjunct to diet and exercise to treat __?__.
   a. DMT1
   b. DMT1 and never DMT2
   c. DMT2
   d. Diabetes insipidus
   e. All of the above

115. Pioglitazone (Actos) is an antihyperglycemic drug used as an adjunct to diet and exercise to treat DMT2. It has a boxed warning for __?__.
   a. Congestive heart failure
   b. Tendon rupture
   c. Narrow therapeutic margin
   d. Lactic acidosis
   e. Fetotoxicity in the 2nd and 3rd trimester

116. Sitagliptin (Januvia) is a(n) __?__ antihyperglycemic drug used as an adjunct to diet and exercise to treat __?__.
   a. Oral /DMT1
   b. Oral /DMT2
   c. Parenteral /DMT1 and some cases of DMT2
   d. Oral /Diabetes insipidus
   e. All of the above

117. Liraglutide (Victoza) is based on a drug originally developed based on __?__.
   a. Lizard (Gila Monster) spit
   b. Snake spit
   c. Leech spit
   d. Cow lung extract
   e. Fungal metabolites

118. Acarbose (Precose) is a(n) __?__ antihyperglycemic drug used as an adjunct to diet and exercise to treat __?__.
   a. Parenteral /DMT1
   b. Oral /DMT1 and DMT 2
   c. Parenteral /DMT1 and some cases of DMT2
   d. Oral /Diabetes insipidus
   e. All of the above

119. Glucagon (Glucagen) is a(n) __?__ drug used to treat __?__.
   a. Oral /DMT1
   b. Oral/DMT2
   c. Parenteral/Hyperglycemia
   d. Parenteral/Hypoglycemia
   e. All of the above

120. Which of the following is Benazepril, an ACEI indicated for HT?
   a. Norvasc
   b. Lotensin
   c. Catapres
   d. Avapro
   e. Cozaar

121. Which of the following is Inderal?
   a. Metoprolol
   b. Atenolol
   c. Propranolol
   d. Lotrel
   e. Milrinone

122. Which of the following is a CCB indicated for HT and angina?
   a. Doxazosin
   b. Diltiazem
   c. Diovan
   d. Furosemide
   e. Captopril

123. Which of the following is a diuretic that prevents the loss of potassium by blocking aldosterone receptors?
   a. Atenolol
   b. Albuterol
   c. Spironolactone
   d. Furosemide
   e. Hydrochlorothiazide

124. Which of the following is a beta 1 selective beta-blocker for HT, MI, and angina?
   a. Atenolol
   b. Albuterol
   c. Doxazosin
   d. Furosemide
   e. Amlodipine

125. Which of the following is a CCB indicated as a PO anti HT and anti anginal?
   a. Amlodipine
   b. Benazepril
   c. Captopril
   d. Doxazosin
   e. Valsartan
126. Which of the following is a loop diuretic indicated for edema associated with severe HT, HF, renal insufficiency, etc.
   a. Hydrochlorothiazide (Esidrix)
   b. Furosemide (Lasix)
   c. Spironolactone (Aldactone)
   d. Atenolol (Tenormin)
   e. None of the above

127. Which of the following is a thiazide diuretic indicated for mild to moderate HT and other conditions causing edema?
   a. Esidrix
   b. Lasix
   c. Tenormin
   d. Aldactone
   e. None of the above

128. Which of the following is a CCB indicated PO for HT and IV for the rapid conversion of atrial tachycardias?
   a. Verapamil
   b. Valsartan
   c. Vasotec
   d. Inderal
   e. Lotensin

129. Which of these is a vasodilator indicated IV to immediately drop BP, and induce hypotension during surgery to reduce blood loss?
   a. Hydralazine
   b. Nitroprusside
   c. Nitrofurantoin
   d. Labetalol
   e. Fenoldopam

130. Which of the following is Capoten, an ACEI indicated for HT, HF, Left ventricular dysfunction after MI and diabetic nephropathy, but which may cause blood dyscrasias?
   a. Captopril
   b. Benazepril
   c. Enalapril
   d. Methyldopa
   e. Lotrel

131. Which of the following is Avapro?
   a. Benazepril
   b. Captopril
   c. Enalapril
   d. Irbesartan
   e. Methyldopa

132. Which of the following is Diovan, an ARB indicated for HT, diabetic nephropathy and left ventricular hypertrophy?
   a. Verapamil
   b. Valsartan
   c. Vasotec
   d. Furosemide
   e. Hyzaar

133. Which of the following is Cozaar, an ARB indicated for HT HF, and MI?
   a. Hyzaar
   b. Losartan
   c. Inderide
   d. Lotrel
   e. Labetalol

134. Which of the following is Dilantin?
   a. Procainamide
   b. Phenytoin
   c. Propranolol
   d. Adenosine
   e. Ranolazine

135. Which of these is a Class III antiarrhythmic?
   a. Adenosine (Adenocard)
   b. Amiodarone (Pacerone)
   c. Digoxin (Lanoxin)
   d. Flecainide (Tambocor)
   e. Phenytoin (Dilantin)

136. Furosemide increases the likelihood of digoxin toxicity because it causes the loss of __?__
   a. Potassium
   b. Calcium
   c. Weight
   d. Hearing
   e. Color vision

137. Which of the following is most likely to be given to control pain following an MI?
   a. Digoxin
   b. Phenytoin
   c. Morphine
   d. Atorvastatin
   e. Warfarin

138. Furosemide may cause __?__ if injected rapidly.
   a. Vision loss
   b. Tendon rupture
   c. Fetotoxicity
   d. Hearing loss
   e. Angina
139. Which of the following is a Class V antiarrhythmic. It inhibits sodium potassium ATPase and is indicated for mild to moderate HF and atrial fibrillation. It has a narrow therapeutic margin.
   a. Adenosine (Adenocard)
   b. Digoxin (Lanoxin)
   c. Amiodarone (Pacerone)
   d. Flecaïnide (Tambocor)
   e. Phenytoin (Dilantin)

140. HIV-AIDS patients take antivirals that leave them with high serum triglyceride levels. Which drug would best control TGs?
   a. Gemfibrozil
   b. Warfarin
   c. Heparin
   d. Clopidogrel
   e. None of the above

141. Which of the following is a HMG-CoA reductase inhibitor (statin)?
   a. Lipitor
   b. Cholestryramine
   c. Ezetimibe
   d. Gemfibrozil
   e. Niacor

142. Which of the following is a bile acid sequestrant indicated PO SID or BID as an adjunct to diet to reduce LDL-C and for the relief of pruritus associated with partial bile duct obstruction?
   a. Atorvastatin
   b. Cholestryramine
   c. Ezetimibe
   d. Gemfibrozil
   e. Nicotinic acid

143. Which of the following is a fibric acid given PO BID 30 minutes before am and pm meals to lower TG levels (and raise HDL-C)?
   a. Atorvastatin
   b. Cholestryramine
   c. Ezetimibe
   d. Gemfibrozil
   e. Nicotinic acid

144. Which of the following inhibits cholesterol absorption from the intestines? It is indicated PO SID as an adjunct to diet to decrease total-C, LDL-C, non-HDL-C and apo B.
   a. Atorvastatin
   b. Cholestryramine
   c. Ezetimibe
   d. Gemfibrozil
   e. Nicotinic acid

145. Which of the following is an oral anticoagulant available IV/IM/PO? Individualized therapy is required based on PT/INR response. It is indicated for venous thrombosis and pulmonary embolism, thromboembolism associated with atrial tachyarrhythmias or cardiac valve replacement. Given chronically SID/BID PO.
   a. Bivalirudin
   b. Cilostazol
   c. Clopidogrel
   d. Eptifibatide
   e. Warfarin

146. Which of the following is a LMWH given SC or IV SID for 7-17 days for DVT, and thrombosis/ischemia related to angina or MI.
   a. Bivalirudin
   b. Cilostazol
   c. Enoxaparin
   d. Heparin
   e. Warfarin

147. Which of the following is given IV or deep SC to prevent thrombosis? It is known to cause thrombocytopenia and with long-term use, osteoporosis.
   a. Bivalirudin
   b. Enoxaparin
   c. Warfarin
   d. Heparin
   e. None of the above

148. Which of the following was developed based on work on leech spit?
   a. Alteplase
   b. Bivalirudin
   c. Aminocaproic acid
   d. Clopidogrel
   e. Eptifibatide
149. Which of the following inhibits cAMP PDE? It should be taken PO BID 30 minutes before or 2 hrs after meals. Indicated for intermittent claudication.
   a. Alteplase
   b. Aminocaproic acid
   c. Cilostazol
   d. Clopidogrel
   e. Eptifibatide

150. Which of the following was developed based on work on snake spit?
   a. Alteplase
   b. Bivalirudin
   c. Clopidogrel
   d. Warfarin
   e. Eptifibatide

151. Which of the following inhibits fibrinolysis? Given PO or as an IV Infusion with a loading dose and then hourly up to about 8 hours. Indicated for hyperfibrinolytic states (conditions where clots don’t form such as certain cancers, heart surgery etc.)
   a. Aminocaproic acid
   b. Alteplase
   c. Factor IX complex
   d. Cilostazol
   e. Bivalirudin

152. Warfarin is pregnancy category ___?___
   a. A
   b. B
   c. C
   d. D
   e. X

153. Monitoring the PT/INR individualizes warfarin dosing. Factors affecting dosing include:
   a. Age and body weight
   b. Race
   c. Sex
   d. Concomitant medications and pre existing diseases as well as genetic factors (CYP2C9 and VKORC1 genotypes)
   e. All of the above

154. Heparin is associated with:
   a. Osteoporosis (chronic use)
   b. Thrombocytopenia
   c. Alopecia
   d. A & B
   e. All of the above

155. Many botanicals (licorice, red clover, aloe, black cohosh, dandelion, feverfew, ginger, ginkgo biloba, ginseng) contain ___?__ or have potential ___?__ effects for other reasons.
   a. Coumarins/anticoagulant
   b. Statins/lipid lowering
   c. Heparin/anticoagulant
   d. St John’s Wort/P450
   e. None of the above

156. Phenazopyridine (Baridium) is a(n):
   a. Analog and antagonist of PABA.
   b. Cell wall synthesis Inhibitor
   c. Anti infective that alters urine pH
   d. Bladder mucosa protector
   e. Local analgesic of bladder mucosa

157. Solifenacin (VesiCare) treats overactive bladder syndrome because it is acting as:
   a. An anticholinergic antispasmodic
   b. An alpha 1 blocker
   c. An anti-androgen agent
   d. A retinoid
   e. None of the above

158. Isotretinoin (Accutane, Sotret) has an unknown mechanism to treat severe acne. It is:
   a. An anticholinergic antispasmodic
   b. An alpha 1 blocker
   c. An anti-androgen agent
   d. A retinoid
   e. None of the above

159. Pentosan polysulfate sodium (Elmiron) works by
   a. Acting as an analog and antagonist of PABA.
   b. Reacting with RNA, damaging DNA, interfering with cell wall synthesis, interfering with CBH metabolism...
   c. Alteration of urine pH
   d. Protection of the bladder wall
   e. Local analgesic activity

160. Pregnant women should not ever take:
   a. Testosterone
   b. Oxandrolone
   c. Isotretinoin
   d. Finasteride
   e. All of the above
161. Women taking __?__ must agree to the iPLEDGE program which requires the use of birth control while taking this drug.
   a. Amoxicillin
   b. Isotretinoin
   c. Finasteride
   d. Nitrofurantoin
   e. Trimethoprim

162. A Superinfection caused by antibiotic therapy may consist of:
   a. Yeast overgrowth
   b. Candida infection
   c. Bacterial overgrowth
   d. Clostridium difficile infection
   e. All of the above

163. Erythromycin is an antibiotic and a strong prokinetic. What does it mean to be prokinetic?
   a. It blocks bacterial protein synthesis
   b. It stimulates GI peristalsis
   c. It may overcome ileus
   d. A & B
   e. B & C

164. IV Clindamycin solutions may contain benzyl alcohol which may cause:
   a. Grey baby syndrome
   b. Gasping syndrome in neonates
   c. Torsade de pointes
   d. Hearing loss
   e. Neuromuscular junction blockade

165. Aminoglycosides and Clindamycin should used with caution in patients given __?__ because of curare-like effects.
   a. Loop diuretics
   b. Aspirin
   c. Warfarin
   d. Neuromuscular junction blockers
   e. Theophylline

167. The acronym, MRSA, stands for:
   a. Methicillin Resistant Streptococcus pyogenes
   b. Medication Resistant and Something Awful
   c. Medically Restricted Standard Application
   d. Methicillin Resistant Staphylococcus aureus
   e. Multi Resistant and Smelling Awful

168. The Procaine reaction (a PABA allergy) that may occur in 1 in 500 susceptible people given penicillin G procaine may be described as:
   a. Jaundice
   b. Mental confusion, anxiety, combativeness, fear of impending death
   c. Kidney failure
   d. Headache, orthostatic hypotension
   e. Stevens Johnson Syndrome

169. Rifampin is considered to be a __?__?
   a. Broad spectrum antibiotic
   b. Narrow spectrum antibiotic
   c. Cell wall synthesis inhibitor
   d. Beta lactam antibiotic
   e. None of the above

170. Liver failure with INH is more likely with __?__?
   a. Old age
   b. Alcohol consumption
   c. Hepatitis B
   d. All of the above
   e. C only

171. Which of the following increases the risk of peripheral neuropathy with INH?
   a. Slow acetylation
   b. Diabetes
   c. Malnourishment
   d. Alcoholism
   e. All of the above

172. INH has a boxed warning regarding:
   a. Kidney failure
   b. Liver failure
   c. Blood dyscrasias
   d. Cancer
   e. Peliosis

173. Which of the following has no PO bioavailability and must be injected or inhaled?
   a. Penicillin G Procaine
   b. Cefepime (Maxipime)
   c. Aztreonam (Azactam, Cayston)
   d. Isoniazid (INH)
   e. Dapsone
174. Which of the following is only bactericidal against actively growing TB, but can be given PO or IM.
   a. Rifampin (Cavidin, Mycostat)
   b. Isoniazid (INH, Nydrazid)
   c. Dapsone
   d. Cephalexin (Keflex)
   e. Augmentin

175. Which of the following can be given PO or by IV infusion as a bactericidal against TB & Neisseria meningitides?
   a. Isoniazid (INH, Nydrazid)
   b. Rifampin (Cavidin, Mycostat)
   c. Dapsone
   d. Cephalexin (Keflex)
   e. Augmentin

Micro 4

176. Fluoroquinolones are bactericidal and work by:
   a. Interfering with DNA synthesis
   b. Blocking protein synthesis
   c. Inhibiting cell wall formation
   d. Interfering with metabolism
   e. None of the above

177. Ciprofloxacin (Cipro) should be used with caution in patients:
   a. Who are older than 60 years
   b. With a history of seizures
   c. Who have had a transplant surgery
   d. Are taking chronic corticosteroids
   e. All the above

178. Ciprofloxacin (Cipro) has a boxed warning for an increased risk of tendon rupture in patients ___?__
   a. Older than 60 yrs.
   b. Who have had a transplant
   c. Taking corticosteroids
   d. With a history of seizures
   e. A, B & C, not D

179. The Fluoroquinolones, including Cipro, have the highest risk of ___?__ of any antibiotic class.
   a. MRSA superinfection
   b. MRSA and/or C. difficile Superinfection
   c. Candida infection
   d. Heart failure
   e. Hearing loss

180. Metronidazole increases the risk of breast and colon cancer in ___?__
   a. Cancer patients
   b. Crohn’s patients
   c. Patients with a seizure history
   d. Pregnant patients
   e. Kids

181. Metronidazole may cause psychosis in alcoholics taking ___?__
   a. Disulfiram
   b. Warfarin
   c. Corticosteroids
   d. Doxycycline
   e. Aspirin

182. Which is a quinolone antiprotozoal for extra-intestinal amoeba and malaria prophylaxis/treatment?
   a. Ciprofloxacin (Cipro)
   b. Chloroquine (Aralen)
   c. Mefloquine (Lariam)
   d. Doxycycline (Vibramycin)
   e. Metronidazole (Flagyl)

183. Which is an antiprotozoal for amoeba and trichomonas; an antibacterial for anaerobic bacteria including Clostridium difficile; and is used to treat Rosacea?
   a. Ciprofloxacin (Cipro)
   b. Chloroquine (Aralen)
   c. Mefloquine (Lariam)
   d. Doxycycline (Vibramycin)
   e. Metronidazole (Flagyl)

184. Which of the following is the most similar to metronidazole?
   a. Ciprofloxacin (Cipro)
   b. Chloroquine (Aralen)
   c. Mefloquine (Lariam)
   d. Tinidazole (Tindamax)
   e. None of the above

185. Which is the only FDA approved antiprotozoal for cryptosporidiosis?
   a. Mefloquine (Lariam)
   b. Chloroquine (Aralen)
   c. Nitazoxanide (Alinia)
   d. Doxycycline (Vibramycin)
   e. Metronidazole (Flagyl)
186. Which is a quinolone antiprotozoal that is only indicated for malaria?
   a. Ciprofloxacin (Cipro)
   b. Chloroquine (Aralen)
   c. Mefloquine (Lariam)
   d. Doxycycline (Vibramycin)
   e. Metronidazole (Flagyl)

187. Which is a tetracycline antibiotic with many indications, including for amoeba, malaria, rickettsia, and spirochete bacteria including Lyme and Leptospirosis?
   a. Ciprofloxacin (Cipro)
   b. Chloroquine (Aralen)
   c. Mefloquine (Lariam)
   d. Doxycycline (Vibramycin)
   e. Metronidazole (Flagyl)

188. What use is an Anthelmintic?
   a. To kill bacteria
   b. To kill lice
   c. To kill mites
   d. To kill protozoa
   e. To kill worms

189. What is the use of a Scabicide?
   a. To kill bacteria
   b. To kill lice
   c. To kill mites
   d. To kill protozoa
   e. To kill worms

190. What are Pediculicides used for?
   a. To kill fungi
   b. To kill lice
   c. To kill mites
   d. To kill protozoa
   e. To kill worms

191. Pyrantel is a fairly potent NMJB. Why does Pyrantel kill pinworms in the GIT, but not the human who “owns” said GIT?
   a. Because it is so poorly absorbed
   b. It is a Prodrug that must be activated
   c. It is rapidly metabolized in people
   d. All of the above
   e. None of the above

192. Which of the following is only used IV and only against life threatening fungal infections?
   a. Albendazole
   b. Amphotericin B
   c. Praziquantel
   d. Fluconazole
   e. Clotrimazole

193. Which of the following is most likely to be used to treat athlete’s foot?
   a. Albendazole
   b. Amphotericin B
   c. Praziquantel
   d. Ivermectin
   e. Clotrimazole

194. Budesonide (Rhinocort Aqua) is a(n):
   a. Beta 2 agonist
   b. Mineralocorticoid
   c. Sympathomimetic (alpha agonist)
   d. Beta Blocker
   e. Corticosteroid

195. Drugs that suppress coughing are called:
   a. Decongestant
   b. Antitussive
   c. Expectorant
   d. Mucolytic
   e. Surfactant

196. Drugs that convert a dry cough to a productive cough are called:
   a. Antitussive
   b. Decongestant
   c. Expectorant
   d. Mucolytic
   e. Surfactant

197. Drugs that thin mucous in the upper airways by chemically removing sulphur cross linkages in mucoproteins are called:
   a. Antitussive
   b. Decongestant
   c. Expectorant
   d. Mucolytic
   e. Surfactant
198. Drugs that decrease the amount of mucous or edema due to colds or allergies are called:
   a. Antitussive
   b. Decongestant
   c. Expectorant
   d. Mucolytic
   e. Surfactant

199. Drugs that replace the natural lubricant in the lung are called:
   a. Antitussive
   b. Decongestant
   c. Expectorant
   d. Mucolytic
   e. Surfactant

200. Fexofenadine (Allegra) is a(n):
    a. 1st generation antihistamine and anticholinergic.
    b. 2nd generation antihistamine.
    c. Oral Expectorant stimulating the secretion of thin mucus.
    d. Mucolytic when inhaled, antidote to APAP OD when given PO or IV.
    e. Xanthine Bronchodilator.

201. Guaifenesin (Mucinex) is a(n):
    a. 1st generation antihistamine
    b. 2nd generation
    c. Oral Expectorant
    d. Mucolytic when inhaled, antidote to APAP OD when given PO or IV.
    e. Xanthine Bronchodilator.

202. Acetylcysteine (Mucomyst) is a(n):
    a. 1st generation antihistamine.
    b. 2nd generation antihistamine.
    c. Oral Expectorant.
    d. Mucolytic.
    e. Xanthine Bronchodilator.

203. Theophylline (Theo-24) is a(n):
    a. Xanthine Bronchodilator for asthma or COPD
    b. C-III narcotic Opioid antitussive/analgesic with anti muscarinic agent to dry secretions
    c. Sympathomimetic (alpha agonist) topical nasal decongestant available OTC as a spray
    d. Sympathomimetic (alpha agonist) oral nasal decongestant available OTC
    e. Topical and orally inhaled steroid nasal decongestant and anti inflammatory

204. Beractant (Survanta) is a(n):
    a. Lung surfactant replacement
    b. Antiviral
    c. Mast cell stabilizer
    d. Reverse Transcriptase inhibitor
    e. Topical steroid nasal decongestant

205. Oseltamivir (Tamiflu) is a(n):
    a. Lung surfactant replacement (natural bovine lung extract)
    b. Ion channel M2 protein inhibitor on Influenza A virus also an NMDA antagonist and anticholinergic for PD & EPS
    c. Mast cell stabilizer (inhibits the release of histamine and LTs from sensitized mast cells)
    d. Neuraminidase inhibitor against Influenza A
    e. Topical steroid nasal decongestant

**Viruses**

206. What is the mechanism of Probenecid (Benuryl)?
    a. It inhibits renal tubular secretion of many drugs and used to treat gout
    b. It inhibits P450s
    c. It induces P450s
    d. It blocks absorption
    e. It increases excretion through the kidneys

207. What is Docosanol (Abreva) used to treat?
    a. HIV (immunodeficiency virus)
    b. HPV (papilloma virus)
    c. HBV (hepatitis B)
    d. HBV & HCV (hepatitis B and C)
    e. HSV (Herpes simplex)

208. The acronym HAART means __?__
    a. Highly Anticipated Advanced Retroviral Therapy
    b. Highly Active Anti Retroviral Therapy
    c. Hotly Argued Anti Retroviral Term
    d. Hardly Appropriate Adult Review Themes
    e. HIV Alternative Additional Retroviral Therapy
209. What does “Boosting” mean with regards to HIV therapy?
   a. Using one drug to increase the t½ of another
   b. Adding on additional drugs to the combination therapy
   c. Adding on additional amounts of drug, or increasing the frequency of dosing
   d. Getting high off the anti retroviral drugs
   e. Stealing drugs in order to get the amounts needed

210. Enfuviratide is a ___?___.
   a. RTI for HIV
   b. RTI for HCV
   c. Fusion inhibitor for HIV
   d. RTI for Herpes
   e. Human Papilloma virus inhibitor

   **GI**

211. What class of drugs are cimetidine, famotidine and ranitidine?
   a. 1st generation antihistamine
   b. 2nd generation antihistamine
   c. H2 antagonist
   d. 5-HT3 antagonist
   e. Proton pump inhibitor

212. What class of drug is omeprazole?
   a. 1st generation antihistamine
   b. 2nd generation antihistamine
   c. H2 antagonist
   d. 5-HT3 antagonist
   e. Proton pump inhibitor

213. What class of drug is Ondansetron?
   a. Substance P/Neurokinin 1 receptor antagonist
   b. Phenothiazone anti emetic
   c. Synthetic corticosteroid anti-inflammatory agent
   d. 5-HT3 receptor antagonist anti emetic
   e. C-III cannabinoid

214. What class of drug is scopolamine?
   a. Anti emetic
   b. Anticholinergic
   c. Antimuscarinic
   d. Belladonna alkaloid
   e. All of the above

215. What class of drug is dronabinol?
   a. Substance P/Neurokinin 1 receptor antagonist
   b. Phenothiazone anti emetic
   c. Synthetic corticosteroid anti-inflammatory agent
   d. 5-HT3 receptor antagonist anti emetic
   e. C-III cannabinoid

216. What class of drug is aprepitant?
   a. Substance P/Neurokinin 1 receptor antagonist
   b. Phenothiazone anti emetic
   c. Synthetic corticosteroid anti-inflammatory agent
   d. 5-HT3 receptor antagonist anti emetic
   e. C-III cannabinoid

217. What are the indications for Sucralfate?
   a. To prevent NSAID related GI ulcers in adults at high risk.
   b. Reduce GI hyperacidity, and uric acid crystalluria; adjunct for severe diarrhea as a bicarbonate replacement
   c. GERD, gastric ulcer, pathological hypersecretory conditions, in combo with antibiotics to treat *Helicobacter pylori* infection
   d. GERD, GI ulcers, heartburn, pathological hypersecretion syndrome.
   e. Short-term ulcer treatment, usually for ulcers due to chemotherapy or radiation (forms a proteinaceous glob over ulcer).

218. Which of the following is indicated for traveler’s diarrhea?
   a. Loperamide
   b. Aprepitant
   c. Omeprazole
   d. Leuprolide
   e. Lorazepam

219. Which drug is Carafate?
   a. Aprepitant
   b. Dronabinol
   c. Sucralfate
   d. Omeprazole
   e. Scopolamine

Slightly Rewritten
220. What are the indications for Propofol?
   a. Zillions of indications. Sometimes used for PONV
   b. Motion sickness, PONV, morning sickness and CINV
   c. CINV and AIDs HAART-induced emesis and anorexia, also anorexia in Alzheimer’s patients
d. Parenteral anesthetic. Used off label as rescue anti emetic for severe emesis.
e. CINV, RINV and PONV

221. What does the acronym CINV mean?
   a. Certain Infections, Nausea and Vomiting
   b. Certifiably Insane Nursing Venue
c. Chemotherapy Induced Nausea and Vomiting
d. Captain Invisible’s Next Venture
e. Cheap Ingestible = Nausea and Vomiting

222. The acronym PONV means ___?___
   a. Post-Op Nausea and Vomiting
   b. Post-Op (patients) Never Vomit
c. Powerful Odors Nauseate Verily
d. Puking Objectives Need Verification
e. People Obviously Need Victory

223. The acronym RINV means ___?___
   a. Reality Insurance Never Verified
   b. Radically Incited Nausea and Vomiting
c. Racially Induced Nausea and Vomiting
d. Radiation Induced Nuclear Void
e. Radiation Induced Nausea and Vomiting

224. The acronym NVP means ___?___
   a. Non-Violent Protest
   b. Nausea and Vomiting of Pregnancy
c. New Vascular Procedure
d. Necrotizing Vasculitis and Pancreatitis
e. Noted Valued Person

226. Doxorubicin (Adriamycin) is a natural product, an anthracycline antibiotic, indicated as an:
   a. Anticoagulant
   b. Antiprotozoal
c. Antiviral
d. Anti-anginal
e. Anti-neoplastic agent

227. The nitrogen mustard is:
   a. Carmustine
   b. Cisplatin
c. Cyclophosphamide
d. Vincristine
e. Leuprolide

228. The spindle poison is:
   a. Carmustine
   b. Cisplatin
c. Cyclophosphamide
d. Vincristine
e. Leuprolide

229. The hormone modulator is:
   a. Carmustine
   b. Cisplatin
c. Cyclophosphamide
d. Vincristine
e. Leuprolide

230. The hormone modulator is:
   a. Etoposide
   b. Chlorambucil
c. Asparaginase
d. Tamoxifen
e. Fluorouracil

231. Compazine or Compro is:
   a. Dexamethasone
   b. Thorazine
c. Diphenhydramine
d. Prochlorperazine
e. Haloperidol

232. Zofran is:
   a. Metoclopramide
   b. Scopolamine
c. Ondansetron
d. Dexamethasone
e. Prochlorperazine

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**Cancer**

225. Reglan is:
   a. Metoclopramide
   b. Scopolamine
c. Ondansetron
d. Dexamethasone
e. Prochlorperazine
233. Aranesp is:
   a. Filgrastim
   b. Pegfilgrastim
   c. Sargramostim
   d. Darbepoetin alfa
   e. Epoetin alfa

234. Platinol is:
   a. Carmustine
   b. Cisplatin
   c. Cyclophosphamide
   d. Vincristine
   e. Leuprolide

235. Trexall is:
   a. Tamoxifen
   b. Fluorouracil
   c. Etoposide
   d. Methotrexate
   e. Doxorubicin

236. Neulasta is:
   a. Filgrastim
   b. Pegfilgrastim
   c. Sargramostim
   d. Darbepoetin alfa
   e. Epoetin alfa

237. Leukine is:
   a. Filgrastim
   b. Pegfilgrastim
   c. Sargramostim
   d. Darbepoetin alfa
   e. Epoetin alfa

238. Procrit is:
   a. Filgrastim
   b. Pegfilgrastim
   c. Sargramostim
   d. Darbepoetin alfa
   e. Epoetin alfa

239. The ability of warfarin to inhibit clotting can be reversed by taking __?__?
   a. Vitamin K
   b. Glucosamine
   c. Ginger
   d. Vitamin A
   e. B vitamins

240. A lack of Vitamin C causes:
   a. Vision problems
   b. Ricketts in kids
   c. Coagulopathies
   d. Scurvy
   e. Anemia

241. OJ Simpson, a famous ex-football player, suspected murderer and ex-AVIS car rental ad-
man has rickets, which is usually caused by a vitamin __?__ deficiency.
   a. A
   b. D
   c. C
   d. B6
   e. K

242. St. John’s Wort is used for:
   a. Vision problems
   b. Ricketts
   c. Diarrhea
   d. Depression
   e. Colds

243. Ginger is used for:
   a. Vision problems
   b. Ricketts
   c. GI upset
   d. Depression
   e. Colds

244. Glucosamine is used for:
   a. Joint problems (arthritis)
   b. Ricketts
   c. Diarrhea
   d. Depression
   e. Colds

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### NCLEX-style questions

246. The nurse is monitoring a patient for adverse effects associated with morphine. Which would NOT be something expected?
   a. Respiratory depression
   b. Constipation
   c. Nausea
   d. Dilated pupils
   e. Urinary retention
247. The nurse is caring for several clients who are receiving opioids for pain relief. Which client is at the highest risk of developing hypotension, respiratory depression and mental confusion (given an appropriate dose)?
   a. 23 year old female, post appendectomy
   b. 16 year old male, after a moped accident with lacerations, but no head trauma
   c. 54 year old female, after a heart attack
   d. 96 year old male, postoperative for a femur fracture
   e. All of these patients are at equal risk

248. The client is receiving a medication that may cause nephrotoxicity. To avoid this adverse reaction, the client should be encouraged to:
   a. Avoid direct exposure to the sun
   b. Avoid Tyramine containing foods
   c. Avoid alcohol
   d. Increase fluid intake
   e. Increase bed rest

249. A family member asks the nurse, “my dad is taking Elavil and now they’re giving him Selegiline. Hasn’t the wrong drug been ordered? The nurse should recognize that:
   a. There has been an error in the order and the health care provider should be immediately contacted.
   b. There may be a reason for the health care provider to order a different drug.
   c. Not all health care agencies buy the same generic drugs and that may account for the difference.
   d. Elavil and Selegiline are two names for the same generic drug and are interchangeable
   e. None of the above

250. A client with diabetes reports increasing pain and numbness in his legs. “It feels like pins and needles all the time, especially at night,” he tells you. Which drug would the nurse expect to be prescribed for this client?
   a. Morphine
   b. Aspirin
   c. Acetaminophen
   d. Gabapentin
   e. Revia