

CNS DRUGS

1. \\\ Lorazepam can be safely used as a preanesthetic medication in a patient undergoing liver transplantation without fear of excessive CNS depression because the drug is
 - \\\ excreted in unchanged form
 - \\\ actively secreted into the GI tract
 - \\\ conjugated extrahepatically
 - \\\ a selective anxiolytic devoid of CNS depressant actions

2. \\\ Benzodiazepines are thought to cause sedative and/or anxiolytic effects by
 - \\\ enhancing the actions of dopamine
 - \\\ blocking the NMDA glutamate receptor subtype
 - \\\ acting as a partial agonist at 5HT receptors
 - \\\ facilitating GABA-mediated increases in chloride ion conductance

3. \\\ Which one of the following is an established clinical use of morphine?
 - \\\ Management of generalized anxiety disorders
 - \\\ Relief of pain associated with biliary colic
 - \\\ Relief of pain in acute MI
 - \\\ Treatment of cough associated with use of ACE inhibitors

4. \\\ Which one of the following do morphine and D-tubocurarine have in common?
 - \\\ Increased bladder tone
 - \\\ ANS ganglion blockade
 - \\\ Malignant hyperthermia
 - \\\ Histamine release

5. \\\ In the management of toxicity caused by ingestion of methanol in wood spirits, which one of the following statements is most accurate?
 - \\\ Treatment should involve the administration of disulfiram in the ER.
 - \\\ Naltrexone is a suitable antidote in poisoning due to alcohols.
 - \\\ Ethanol will prevent formation of formaldehyde in methanol poisoning.
 - \\\ Hemodialysis will not remove methanol from the blood.

6. \\\ A patient has been diagnosed as having "long QT syndrome." Which one of the following drugs used in the management of CNS dysfunction is most likely to cause problems in this patient?
 - \\\ Diazepam
 - \\\ Ethosuximide
 - \\\ Fluoxetine
 - \\\ Thioridazine

7. \\\ A 30-year-old male patient is brought to the ER with the following symptoms attributed to a drug overdose: ↑ HR and BP, mydriasis, behavioral excitation, aggressiveness, paranoia, and hallucinations. Of the following drugs, which one is most likely to be responsible for these symptoms?
 - \\\ Amphetamine
 - \\\ Ethanol
 - \\\ Fentanyl
 - \\\ Marijuana

8. \\\ Hypnotic drugs are used to treat:
 - \\\ Psychosis
 - \\\ Sleep disorders
 - \\\ Narcolepsy
 - \\\ Parkinsonian disorders

9. \\\ Which of the following chemical agents are used in the treatment of insomnia?
 - \\\ Benzodiazepines
 - \\\ Imidazopyridines
 - \\\ Barbiturates

\ \ All of the above

10. \ \ \ Select a hypnotic drug, which is a benzodiazepine derivative:

- \ \ Zolpidem
- \ \ Flurazepam
- \ \ Secobarbital
- \ \ Phenobarbitone

11. \ \ \ Tick a hypnotic agent – a barbituric acid derivative:

- \ \ Flurazepam
- \ \ Zaleplon
- \ \ Thiopental
- \ \ Triazolam

12. \ \ \ Select a hypnotic drug, which is an imidazopyridine derivative:

- \ \ Pentobarbital
- \ \ Temazepam
- \ \ Zolpidem
- \ \ Chloral hydrate

13. \ \ \ Which of the following barbiturates is an ultra-short-acting drug?

- \ \ Secobarbital
- \ \ Amobarbital
- \ \ Thiopental
- \ \ Phenobarbital

14. \ \ \ Indicate the barbituric acid derivative, which has 4-5 days elimination half-life:

- \ \ Secobarbital
- \ \ Thiopental
- \ \ Phenobarbital
- \ \ Amobarbital

15. \ \ \ Indicate the hypnotic benzodiazepine, which has the shortest elimination half-life:

- \ \ Temazepam
- \ \ Triazolam
- \ \ Flurazepam
- \ \ Diazepam

16. \ \ \ Which of the following hypnotic drugs is more likely to cause cumulative and residual effects?

- \ \ Zolpidem
- \ \ Temazepam
- \ \ Phenobarbital
- \ \ Triazolam

17. \ \ \ Which of the following hypnotic drugs increases the activity of hepatic drug-metabolizing enzyme systems?

- \ \ Phenobarbital
- \ \ Zolpidem
- \ \ Flurazepam
- \ \ Zaleplon

18. \ \ \ Hepatic microsomal drug-metabolizing enzyme induction leads to:

- \ \ Barbiturate tolerance
- \ \ Cumulative effects
- \ \ Development of physical dependence
- \ \ “hangover” effects

19. \ \ \ Indicate the hypnotic drug, which does not change hepatic drug-metabolizing enzyme activity?

- \ \ Flurazepam
- \ \ Zaleplon
- \ \ Triazolam

\ \ All of the above

20. \ \ \ Barbiturates increase the rate of metabolism of:

- \ \ Anticoagulants
- \ \ Digitalis compounds
- \ \ Glucocorticoids
- \ \ All of the above

21. \ \ \ Which of the following agents inhibits hepatic metabolism of hypnotics?

- \ \ Flumazenil
- \ \ Cimetidin
- \ \ Phenytoin
- \ \ Theophylline

22. \ \ \ Which of the following factors can influence the biodisposition of hypnotic agents?

- \ \ Alterations in the hepatic function resulting from a disease
- \ \ Old age
- \ \ Drug-induced increases or decreases in microsomal enzyme activities
- \ \ All of the above

23. \ \ \ Which of the following hypnotics is preferred for elderly patients?

- \ \ Phenobarbital
- \ \ Flurozepam
- \ \ Temazepam
- \ \ Secobarbital

24. \ \ \ Which of the following hypnotics is preferred in patients with limited hepatic function?

- \ \ Zolpidem
- \ \ Amobarbital
- \ \ Flurozepam
- \ \ Pentobarbital

25. \ \ \ Indicate the mechanism of barbiturate action (at hypnotic doses):

- \ \ Increasing the duration of the GABA-gated Cl⁻ channel openings
- \ \ Directly activating the chloride channels
- \ \ Increasing the frequency of Cl⁻ channel opening events
- \ \ All of the above

26. \ \ \ Imidazopyridines are:

- \ \ Partial agonists at brain 5-HT_{1A} receptors
- \ \ Selective agonists of the BZ₁ (omega1) subtype of BZ receptors
- \ \ Competitive antagonists of BZ receptors
- \ \ Nonselective agonists of both BZ₁ and BZ₂ receptor subtypes

27. \ \ \ Which of the following hypnotic agents is a positive allosteric modulator of GABA receptor function?

- \ \ Zaleplon
- \ \ Flurazepam
- \ \ Zolpidem
- \ \ All of the above

28. \ \ \ Indicate a hypnotic drug - a selective agonist at the BZ₁ receptor subtype:

- \ \ Flurazepam
- \ \ Zolpidem
- \ \ Triazolam
- \ \ Flumazenil

29. \ \ \ Which of the following hypnotic agents is able to interact with both BZ₁ and BZ₂ receptor subtypes?

- \ \ Zaleplon
- \ \ Phenobarbital
- \ \ Flurazepam
- \ \ Zolpidem

30. \\\ Indicate the competitive antagonist of BZ receptors:

- \\ Flumazenil
- \\ Picrotoxin
- \\ Zolpidem
- \\ Temazepam

31. \\\ Flumazenil blocks the actions of:

- \\ Phenobarbital
- \\ Morphine
- \\ Zolpidem
- \\ Ethanol

32. \\\ Which of the following agents is preferred in the treatment of insomnia?

- \\ Barbiturates
- \\ Hypnotic benzodiazepines
- \\ Ethanol
- \\ Phenothiazide

33. \\\ Barbiturates are being replaced by hypnotic benzodiazepines because of:

- \\ Low therapeutic index
- \\ Suppression in REM sleep
- \\ High potential of physical dependence and abuse
- \\ All of the above

34. \\\ Which of the following benzodiazepines is used mainly for hypnosis?

- \\ Clonazepam
- \\ Lorazepam
- \\ Flurazepam
- \\ Midazolam

35. \\\ Indicate the main claim for an ideal hypnotic agent:

- \\ Rapid onset and sufficient duration of action
- \\ Minor effects on sleep patterns
- \\ Minimal "hangover" effects
- \\ All of the above

36. \\\ During slow wave sleep (stage 3 and 4 NREM sleep):

- \\ Dreams occur
- \\ The secretion of adrenal steroids is at its highest
- \\ Somnambulism and nightmares occur
- \\ The secretion of somatotropin is at its lowest

37. \\\ All of the hypnotic drugs induce:

- \\ Increase the duration of REM sleep
- \\ Decrease the duration of REM sleep
- \\ Do not alter the duration of REM sleep
- \\ Increase the duration of slow wave sleep

38. \\\ Which of the following hypnotic drugs causes least suppression of REM sleep?

- \\ Flumazenil
- \\ Phenobarbital
- \\ Flurazepam
- \\ Secobarbital

39. \\\ Although the benzodiazepines continue to be the agents of choice for insomnia, they have:

- \\ The possibility of psychological and physiological dependence
- \\ Synergistic depression of CNS with other drugs (especially alcohol)
- \\ Residual drowsiness and daytime sedation
- \\ All of the above

40. \\\ Which one of the following hypnotic benzodiazepines is more likely to cause rebound insomnia?
\ \ Triazolam
\ \ Flurazepam
\ \ Temazepam
\ \ All of the above
41. \\\ Which of the following hypnotic benzodiazepines is more likely to cause “hangover” effects such as drowsiness, dysphoria, and mental or motor depression the following day?
\ \ Temazepam
\ \ Triazolam
\ \ Flurazepam
\ \ None of the above
42. \\\ Indicate the hypnotic drug, which binds selectively to the BZ1 receptor subtype, facilitating GABAergic inhibition:
\ \ Thiopental
\ \ Zolpidem
\ \ Flurazepam
\ \ Phenobarbital
43. \\\ Which of the following statements is correct for zolpidem?
\ \ Causes minor effects on sleep patterns
\ \ The risk of development of tolerance and dependence is less than with the use of hypnotic benzodiazepines
\ \ Has minimal muscle relaxing and anticonvulsant effects
\ \ All of the above
44. \\\ Which agent exerts hypnotic activity with minimal muscle relaxing and anticonvulsant effects?
\ \ Flurazepam
\ \ Triazolam
\ \ Zaleplon
\ \ None of the above
45. \\\ Which of the following hypnotic drugs is used intravenously as anesthesia?
\ \ Thiopental
\ \ Phenobarbital
\ \ Flurazepam
\ \ Zolpidem
46. \\\ Indicate the usual cause of death due to overdose of hypnotics:
\ \ Depression of the medullar respiratory center
\ \ Hypothermia
\ \ Cerebral edema
\ \ Status epilepticus
47. \\\ Toxic doses of hypnotics may cause a circulatory collapse as a result of:
\ \ Blocking alfa adrenergic receptors
\ \ Increasing vagal tone
\ \ Action on the medullar vasomotor center
\ \ All of the above
48. \\\ The mechanism of action of antiseizure drugs is:
\ \ Enhancement of GABAergic (inhibitory) transmission
\ \ Diminution of excitatory (usually glutamatergic) transmission
\ \ Modification of ionic conductance
\ \ All of the above mechanisms
49. \\\ Which of the following antiseizure drugs produces enhancement of GABA-mediated inhibition?
\ \ Ethosuximide
\ \ Carbamazepine
\ \ Phenobarbital
\ \ Lamotrigine

50. \\\ Indicate an antiseizure drug, which has an impotent effect on the T-type calcium channels in thalamic neurons?

- \\ Carbamazepin
- \\ Lamotrigine
- \\ Ethosuximide
- \\ Phenytoin

51. \\\ Which of the following antiseizure drugs produces a voltage-dependent inactivation of sodium channels?

- \\ Lamotrigine
- \\ Carbamazepin
- \\ Phenytoin
- \\ All of the above

52. \\\ Indicate an antiseizure drug, inhibiting central effects of excitatory amino acids:

- \\ Ethosuximide
- \\ Lamotrigine
- \\ Diazepam
- \\ Tiagabine

53. \\\ The drug for partial and generalized tonic-clonic seizures is:

- \\ Carbamazepine
- \\ Valproate
- \\ Phenytoin
- \\ All of the above

54. \\\ Indicate the most effective an anti-absence drug:

- \\ Valproate
- \\ Phenobarbital
- \\ Carbamazepin
- \\ Phenytoin

55. \\\ The most effective drug against myoclonic seizures is:

- \\ Primidone
- \\ Carbamazepine
- \\ Clonazepam
- \\ Phenytoin

56. \\\ Select the appropriate consideration for phenytoin:

- \\ It blocks sodium channels
- \\ It binds to an allosteric regulatory site on the GABA-BZ receptor and prolongs the openings of the Cl⁻ channels
- \\ It effects on Ca²⁺ currents, reducing the low-threshold (T-type) current
- \\ It inhibits GABA-transaminase, which catalyzes the breakdown of GABA

\\ Dose-related adverse effect caused by phenytoin is:

- \\ Physical and psychological dependence
- \\ Exacerbated grand mal epilepsy
- \\ Gingival hyperplasia
- \\ Extrapyramidal symptoms

57. \\\ Granulocytopenia, gastrointestinal irritation, gingival hyperplasia, and facial hirsutism are possible adverse effects of:

- \\ Phenobarbital
- \\ Carbamazepin
- \\ Valproate
- \\ Phenytoin

58. \\\ The antiseizure drug, which induces hepatic microsomal enzymes, is:

- \\ Lamotrigine
- \\ Phenytoin
- \\ Valproate

\\\ None of the above

59. \\\ The drug of choice for partial seizures is:

- \\ Carbamazepin
- \\\ Ethosuximide
- \\\ Diazepam
- \\\ Lamotrigine

60. \\\ The mechanism of action of carbamazepine appears to be similar to that of:

- \\\ Benzodiazepines
- \\\ Valproate
- \\ Phenytoin
- \\\ Ethosuximide

61. \\\ Which of the following antiseizure drugs is also effective in treating trigeminal neuralgia?

- \\\ Primidone
- \\\ Topiramate
- \\ Carbamazepine
- \\\ Lamotrigine

62. \\\ The most common dose-related adverse effects of carbamazepine are:

- \\ Diplopia, ataxia, and nausea
- \\\ Gingival hyperplasia, hirsutism
- \\\ Sedation, physical and psychological dependence
- \\\ Hemeralopia, myasthenic syndrome

63. \\\ Which of the following antiseizure drugs binds to an allosteric regulatory site on the GABA receptor, increases the duration of the Cl⁻ channels openings:

- \\\ Diazepam
- \\\ Valproate
- \\ Phenobarbital
- \\\ Topiramate

64. \\\ Adverse effect caused by phenobarbital is:

- \\\ Physical and psychological dependence
- \\\ Exacerbated petit mal epilepsy
- \\\ Sedation
- \\ All of the above

65. \\\ Lamotrigine can be used in the treatment of:

- \\\ Partial seizures
- \\\ Absence
- \\\ Myoclonic seizures
- \\ All of the above

66. \\\ The mechanism of vigabatrin's action is:

- \\\ Direct action on the GABA receptor-chloride channel complex
- \\ Inhibition of GABA aminotransferase
- \\\ NMDA receptor blockade via the glycine binding site
- \\\ Inhibition of GABA neuronal reuptake from synapses

67. \\\ Indicate an irreversible inhibitor of GABA aminotransferase (GABA-T):

- \\\ Diazepam
- \\\ Phenobarbital
- \\ Vigabatrin
- \\\ Felbamate

68. \\\ Tiagabine:

- \\ Blocks neuronal and glial reuptake of GABA from synapses
- \\\ Inhibits GABA-T, which catalyzed the breakdown of GABA
- \\\ Blocks the T-type Ca²⁺ channels

\\ Inhibits glutamate transmission at AMPA/kainate receptors

69. \\ The drug of choice in the treatment of petit mal (absence seizures) is:

- \\ Phenytoin
- \\ Ethosuximide
- \\ Phenobarbital
- \\ Carbamazepin

70. \\ The dose-related adverse effect of ethosuximide is:

- \\ Gastrointestinal reactions, such as anorexia, pain, nausea and vomiting
- \\ Exacerbated grand mal epilepsy
- \\ Transient lethargy or fatigue
- \\ All of the above

71. \\ Valproate is very effective against:

- \\ Absence seizures
- \\ Myoclonic seizures
- \\ Generalized tonic-clonic seizures
- \\ All of the above

72. \\ The drug of choice in the treatment of myoclonic seizures is:

- \\ Valproate
- \\ Phenobarbital
- \\ Phenytoin
- \\ Felbamate

73. \\ The reason for preferring ethosuximide to valproate for uncomplicated absence seizures is:

- \\ More effective
- \\ Valproate's idiosyncratic hepatotoxicity
- \\ Greater CNS depressant activity
- \\ All of the above

74. \\ The mechanism of valproate action is:

- \\ Facilitation glutamic acid decarboxylase, the enzyme responsible for GABA synthesis and inhibition of GABA-aminotransferase, the enzyme responsible for the breakdown of GABA (enhance GABA accumulation)
- \\ Inhibition of voltage sensitive Na^+ channels
- \\ Inhibition of low threshold (T-type) Ca^{2+} channels
- \\ All of the above

75. \\ Indicate the antiseizure drug – a benzodiazepine receptor agonist:

- \\ Phenobarbital
- \\ Phenytoin
- \\ Carbamazepine
- \\ Lorazepam

76. \\ Which of the following antiseizure drugs acts directly on the GABA receptor-chloride channel complex?

- \\ Vigabatrin
- \\ Diazepam
- \\ Gabapentin
- \\ Valproate

77. \\ Which of the following antiseizure drugs may produce teratogenicity?

- \\ Phenytoin
- \\ Valproate
- \\ Topiramate
- \\ All of the above

78. \\ The most dangerous effect of antiseizure drugs after large overdoses is:

- \\ Respiratory depression
- \\ Gastrointestinal irritation
- \\ Alopecia

\\ Sedation

79. \\ Which neurons are involved in parkinsonism?

- \\ Cholinergic neurons
- \\ GABAergic neurons
- \\ Dopaminergic neurons
- \\ All of the above

80. \\ Which of the following neurotransmitters is involved in Parkinson's disease?

- \\ Acetylcholine
- \\ Glutamate
- \\ Dopamine
- \\ All of the above

81. \\ Principal aim for treatment of Parkinsonian disorders is:

- \\ To restore the normal balance of cholinergic and dopaminergic influences on the basal ganglia with antimuscarinic drugs
- \\ To restore dopaminergic activity with levodopa and dopamine agonists
- \\ To decrease glutamatergic activity with glutamate antagonists
- \\ All of the above

82. \\ Indicate the drug that induces parkinsonian syndromes:

- \\ Chlorpromazine
- \\ Diazepam
- \\ Triazolam
- \\ Carbamazepine

83. \\ Which of the following drugs is used in the treatment of Parkinsonian disorders?

- \\ Phenytoin
- \\ Selegiline
- \\ Haloperidol
- \\ Fluoxetine

84. \\ Select the agent, which is preferred in the treatment of the drug-induced form of parkinsonism:

- \\ Levodopa
- \\ Bromocriptine
- \\ Benztropine
- \\ Dopamine

85. \\ Which of the following agents is the precursor of dopamine?

- \\ Bromocriptine
- \\ Levodopa
- \\ Selegiline
- \\ Amantadine

86. \\ The main reason for giving levodopa, the precursor of dopamine, instead of dopamine is:

- \\ Dopamine does not cross the blood-brain barrier
- \\ Dopamine may induce acute psychotic reactions
- \\ Dopamine is intensively metabolized in humans
- \\ All of the above

87. \\ Indicate a peripheral dopa decarboxylase inhibitor:

- \\ Tolcapone
- \\ Clozapine
- \\ Carbidopa
- \\ Selegiline

88. \\ The mechanism of carbidopa's action is:

- \\ Stimulating the synthesis, release, or reuptake of dopamine
- \\ Inhibition of dopa decarboxylase
- \\ Stimulating dopamine receptors

\\ Selective inhibition of catechol-O-methyltransferase

89. \\ When carbidopa and levodopa are given concomitantly:

- \\ Levodopa blood levels are increased, and drug half-life is lengthened
- \\ The dose of levodopa can be significantly reduced (by 75%), also reducing toxic side effects
- \\ A shorter latency period precedes the occurrence of beneficial effects
- \\ All of the above

90. \\ Which of the following statements is correct for levodopa?

- \\ Tolerance to both beneficial and adverse effects develops gradually
- \\ Levodopa is most effective in the first 2-5 years of treatment
- \\ After 5 years of therapy, patients have dose-related dyskinesias, inadequate response or toxicity
- \\ All of the above

91. \\ Gastrointestinal irritation, cardiovascular effects, including tachycardia, arrhythmias, and orthostatic hypotension, mental disturbances, and withdrawal are possible adverse effects of:

- \\ Amantadine
- \\ Benztropine
- \\ Levodopa
- \\ Selegiline

92. \\ Which of the following vitamins reduces the beneficial effects of levodopa by enhancing its extracerebral metabolism?

- \\ Pyridoxine
- \\ Thiamine
- \\ Tocopherol
- \\ Riboflavin

93. \\ Which of the following drugs antagonizes the effects of levodopa because it leads to a junctional blockade of dopamine action?

- \\ Reserpine
- \\ Haloperidol
- \\ Chlorpromazine
- \\ All of the above

94. \\ Levodopa should not be given to patients taking:

- \\ Bromocriptine
- \\ Monoamine oxidase A inhibitors
- \\ Carbidopa
- \\ Nonselective beta-adrenergic antagonists

95. \\ Indicate D2 receptor agonist with antiparkinsonian activity:

- \\ Sinemet
- \\ Levodopa
- \\ Bromocriptine
- \\ Selegiline

96. \\ Which of the following antiparkinsonian drugs has also been used to treat hyperprolactinemia?

- \\ Benztropine
- \\ Bromocriptine
- \\ Amantadine
- \\ Levodopa

97. \\ Indicate a selective inhibitor of monoamine oxidase B:

- \\ Levodopa
- \\ Amantadine
- \\ Tolcapone
- \\ Selegiline

98. \\ The main reason for avoiding the combined administration of levodopa and an inhibitor of both forms of monoamine oxidase is:

- \\ Respiratory depression
- \\ Hypertensive emergency
- \\ Acute psychotic reactions
- \\ Cardiovascular collapse and CNS depression

99. \\\\ Indicate selective catechol-O-methyltransferase inhibitor, which prolongs the action of levodopa by diminishing its peripheral metabolism:

- \\ Carbidopa
- \\ Clozapine
- \\ Tolcapone
- \\ Rasagiline

100. \\\\ Which of the following antiparkinsonian drugs is an antiviral agent used in the prophylaxis of influenza A2?

- \\ Selegiline
- \\ Sinemet
- \\ Pergolide
- \\ Amantadine

101. \\\\ The mechanism of amantadine action is:

- \\ Stimulating the glutamatergic neurotransmission
- \\ Blocking the excitatory cholinergic system
- \\ Inhibition of dopa decarboxylase
- \\ Selective inhibition of catechol-O-methyltransferase

102. \\\\ Which of the following antiparkinsonism drugs is an anticholinergic agent?

- \\ Amantadine
- \\ Selegilin
- \\ Benztropine
- \\ Bromocriptine

103. \\\\ Mental confusion and hallucinations, peripheral atropine-like toxicity (e.g. Cycloplegia, tachycardia, urinary retention, and constipation) are possible adverse effects of:

- \\ Sinemet
- \\ Benztropine
- \\ Tolcapone
- \\ Bromocriptine

104. \\\\ Alcohol may cause:

- \\ CNS depression
- \\ Vasodilatation
- \\ Hypoglycemia
- \\ All of the above

105. \\\\ The most common medical complication of alcohol abuse is:

- \\ Liver failure including liver cirrhosis
- \\ Tolerance and physical dependence
- \\ Generalized symmetric peripheral nerve injury, ataxia and dementia
- \\ All of the above

106. \\\\ Alcohol potentiates:

- \\ SNS depressants
- \\ Vasodilators
- \\ Hypoglycemic agents
- \\ All of the above

107. \\\\ Which of the following drugs is most commonly used for causing a noxious reaction to alcohol by blocking its metabolism?

- \\ Naltrexone
- \\ Disulfiram
- \\ Diazepam

\\ Morphine

108. \\ Which of the following agents is an inhibitor of aldehyde dehydrogenase?

- \\ Fomepizole
- \\ Ethanol
- \\ Disulfiram
- \\ Naltrexone

109. \\ Which of the following agents is an opioid antagonist?

- \\ Amphetamine
- \\ Naltrexone
- \\ Morphine
- \\ Disulfiram

110. \\ Management of alcohol withdrawal syndrome contains:

- \\ Restoration of potassium, magnesium and phosphate balance
- \\ Thiamine therapy
- \\ Substituting a long-acting sedative-hypnotic drug for alcohol
- \\ All of the above

111. \\ The symptoms resulting from the combination of disulfiram and alcohol are:

- \\ Hypertensive crisis leading to cerebral ischemia and edema
- \\ Nausea, vomiting
- \\ Respiratory depression and seizures
- \\ Acute psychotic reactions

112. \\ The combination of disulfiram and ethanol leads to accumulation of:

- \\ Formaldehyde
- \\ Acetate
- \\ Formic acid
- \\ Acetaldehyde

113. \\ Chemical mediators in the nociceptive pathway are all of the following EXCEPT:

- \\ Enkephalins
- \\ Kinins
- \\ Prostaglandins
- \\ Substance P

114. \\ Indicate the chemical mediator in the antinociceptive descending pathways:

- \\ BETA-endorphin
- \\ Met- and leu-enkephalin
- \\ Dynorphin
- \\ All of the above

115. \\ Select the brain and spinal cord regions, which are involved in the transmission of pain?

- \\ The limbic system, including the amygdaloid nucleus and the hypothalamus
- \\ The ventral and medial parts of the thalamus
- \\ The substantia gelatinosa
- \\ All of the above

116. \\ Mu receptors are associated with:

- \\ Analgesia, euphoria, respiratory depression, physical dependence
- \\ Spinal analgesia, mydriasis, sedation, physical dependence
- \\ Dysphoria, hallucinations, respiratory and vasomotor stimulation
- \\ Analgesia, euphoria, respiratory stimulation, physical dependence

117. \\ Which of the following opioid analgesics is a strong mu receptor agonist?

- \\ Naloxone
- \\ Morphine
- \\ Pentazocine
- \\ Buprenorphine

118. \\\ Indicate the opioid analgesic, which is a natural agonist:
\ \ Meperidine
\ \ Fentanyl
\ \ Morphine
\ \ Naloxone
119. \\\ Select the opioid analgesic, which is an antagonist or partial mu receptor agonist:
\ \ Fentanyl
\ \ Pentazocine
\ \ Codeine
\ \ Methadone
120. \\\ Which of the following agents is a full antagonist of opioid receptors?
\ \ Meperidine
\ \ Buprenorphine
\ \ Naloxone
\ \ Butorphanol
121. \\\ Major effects of the opioid analgesics with affinity for a mu receptor are:
\ \ Analgesia
\ \ Respiratory depression
\ \ Euphoria
\ \ All of the above
122. \\\ Indicate the opioid analgesic, which has 80 times analgesic potency and respiratory depressant properties of morphine, and is more effective than morphine in maintaining hemodynamic stability?
\ \ Fentanyl
\ \ Pentazocine
\ \ Meperidine
\ \ Nalmefene
123. \\\ Which of the following opioid analgesics is used in combination with droperidol in neuroleptanalgesia?
\ \ Morphine
\ \ Buprenorphine
\ \ Fentanyl
\ \ Morphine
124. \\\ Morphine causes the following effects EXCEPT:
\ \ Constipation
\ \ Dilatation of the biliary duct
\ \ Urinary retention
\ \ Bronchiolar constriction
125. \\\ Indicate the opioid analgesic, which is used for relieving the acute, severe pain of renal colic:
\ \ Morphine
\ \ Naloxone
\ \ Methadone
\ \ Meperidine
126. \\\ Which of the following opioid analgesics is used in the treatment of acute pulmonary edema?
\ \ Morphine
\ \ Codeine
\ \ Fentanyl
\ \ Loperamide
127. \\\ Rhinorrhea, lacrimation, chills, gooseflesh, hyperventilation, hyperthermia, mydriasis, muscular aches, vomiting, diarrhea, anxiety, and hostility are effects of:
\ \ Tolerance
\ \ Opioid overdose

- \\\ Drug interactions between opioid analgesics and sedative-hypnotics
- \\ Abstinence syndrome

128. \\\ The diagnostic triad of opioid overdose is:

- \\\ Mydriasis, coma and hyperventilation
- \\ Coma, depressed respiration and miosis
- \\\ Mydriasis, chills and abdominal cramps
- \\\ Miosis, tremor and vomiting

129. \\\ Which of the following opioid agents is used in the treatment of acute opioid overdose?

- \\\ Pentazocine
- \\\ Methadone
- \\ Naloxone
- \\\ Remifentanyl

130. \\\ Indicate the pure opioid antagonist, which has a half-life of 10 hours:

- \\\ Naloxone
- \\ Naltrexone
- \\\ Tramadol
- \\\ Pentazocine

131. \\\ In contrast to morphine, methadone:

- \\\ Causes tolerance and physical dependence more slowly
- \\\ Is more effective orally
- \\\ Withdrawal is less severe, although more prolonged
- \\ All of the above

132. \\\ Which of the following opioid analgesics is a partial mu receptor agonist?

- \\\ Morphine
- \\\ Methadone
- \\ Buprenorphine
- \\\ Sufentanyl

133. \\\ Indicate a partial mu receptor agonist, which has 20-60 times analgesic potency of morphine, and a longer duration of action:

- \\\ Pentazocine
- \\ Buprenorphine
- \\\ Nalbuphine
- \\\ Naltrexone

134. \\\ Which of the following opioid analgesics is a strong kappa receptor agonist and a mu receptor antagonist?

- \\\ Naltrexone
- \\\ Methadone
- \\ Nalbuphine
- \\\ Buprenorphine

135. \\\ Simple analgesics are mainly effective against pain associated with:

- \\ Inflammation or tissue damage
- \\\ Trauma
- \\\ Myocardial infarction
- \\\ Surgery

136. \\\ Simple agents cause:

- \\\ Respiratory depression
- \\ Antipyretic effect
- \\\ Euphoria
- \\\ Physical dependence

137. \\\ Simple analgesics are all of the following drugs EXCEPT:

- \\\ Paracetamol

- \\ Acetylsalicylic acid
- \\ Butorphanol
- \\ Ketorolac

138. \\\\ Which one of the following non-narcotic agents inhibits mainly cyclooxygenase (COX) in CNS?

- \\ Paracetamol
- \\ Ketorolac
- \\ Acetylsalicylic acid
- \\ Ibuprofen

139. \\\\ Most of non-narcotic analgetics have:

- \\ Anti-inflammatory effect
- \\ Analgesic effect
- \\ Antipyretic effect
- \\ All of the above

140. \\\\ Indicate simple analgesic, which lacks an anti-inflammatory effect:

- \\ Naloxone
- \\ Paracetamol
- \\ Metamizole
- \\ Aspirin

141. \\\\ Correct statements concerning aspirin include all of the following EXCEPT:

- \\ Irreversible COX₁ and COX₂
- \\ It does not have an anti-inflammatory effect
- \\ It inhibits platelet aggregation
- \\ It stimulates respiration by a direct action on the respiratory center

142. \\\\ For which of the following conditions could aspirin be used prophylactically?

- \\ Noncardiogenic pulmonary edema
- \\ Peptic ulcers
- \\ Thromboembolism
- \\ Metabolic acidosis

143. \\\\ All of the following are undesirable effects of aspirin EXCEPT:

- \\ Gastritis with focal erosions
- \\ Tolerance and physical dependence
- \\ Bleeding due to a decrease of platelet aggregation
- \\ Reversible renal insufficiency

144. \\\\ Select the antiseizure drug with an analgesic activity:

- \\ Carbamazepine
- \\ Ethosuximide
- \\ Phenytoin
- \\ Clonazepam

145. \\\\ Which of the following nonopioid agents is an antidepressant with analgesic activity?

- \\ Fluoxetine
- \\ Moclobemide
- \\ Tranylcypamine
- \\ Amitriptyline

146. \\\\ Neuroleptics predominantly are used to treat:

- \\ Neurosis
- \\ Psychosis
- \\ Narcolepsy
- \\ Parkinsonian disorders

147. \\\\ Most antipsychotic drugs:

- \\ Strongly block postsynaptic D₂receptor
- \\ Stimulate postsynaptic D₂ receptor

- \\ Block NMDA receptor
- \\ Stimulate 5-HT₂ receptor

148. \\ Which of the following dopaminergic systems is most closely related to behavior?

- \\ The hypothalamic-pituitary system
- \\ The extrapyramidal system
- \\ The mesolimbic and mesofrontal systems
- \\ The chemoreceptor trigger zone of the medulla

149. \\ Hyperprolactinemia is caused by blockade of dopamine in:

- \\ The chemoreceptor trigger zone of the medulla
- \\ The pituitary
- \\ The extrapyramidal system
- \\ The mesolimbic and mesofrontal systems

150. \\ Parkinsonian symptoms and tardive dyskinesia are caused by blockade dopamine in:

- \\ The nigrostriatal system
- \\ The mesolimbic and mesofrontal systems
- \\ The chemoreceptor trigger zone of the medulla
- \\ The tuberoinfundibular system

151. \\ Extrapyramidal reactions induced by antipsychotic drugs can be treated by:

- \\ Levodopa
- \\ Benztropine mesylate
- \\ Bromocriptine
- \\ Dopamine

152. \\ Which of the following antipsychotic drugs is typical?

- \\ Clozapine
- \\ Quetiapine
- \\ Haloperidol
- \\ Olanzapine

153. \\ Indicate the atypical antipsychotic drug:

- \\ Haloperidol
- \\ Clozapine
- \\ Thioridazine
- \\ Thiothixene

154. \\ Atypical antipsychotic agents (such as clozapine) differ from typical ones:

- \\ In reduced risks of extrapyramidal system dysfunction and tardive dyskinesia
- \\ In having low affinity for D₁ and D₂ dopamine receptors
- \\ In having high affinity for D₄ dopamine receptors
- \\ All of the above

155. \\ Which of the following antipsychotic drugs has high affinity for D₄ and 5-HT₂ receptors?

- \\ Clozapine
- \\ Fluphenazine
- \\ Thioridazine
- \\ Haloperidole

156. \\ Phenothiazine derivatives are able to:

- \\ Alter temperature-regulating mechanisms producing hypothermia
- \\ Decrease levels of prolactin
- \\ Increase corticotrophin release and secretion of pituitary growth hormone
- \\ Decrease appetite and weight

157. \\ Most phenothiazine derivatives have:

- \\ Antihistaminic activity
- \\ Anticholinergic activity
- \\ Antidopaminergic activity

\ \ All of the above

158. \ \ \ Indicate the antipsychotic drug having significant peripheral alpha-adrenoblocker activity:

- \ \ Haloperidol
- \ \ Chlorpromazine
- \ \ Clozapine
- \ \ Risperidone

159. \ \ \ Indicate the antipsychotic drug having a muscarinic-cholinergic blocking activity:

- \ \ Chlorpromazine
- \ \ Clorprothixene
- \ \ Risperidone
- \ \ Haloperidol

160. \ \ \ Parkinson's syndrome, acute dystonic reactions, tardive dyskinesia, antimuscarinic actions, orthostatic hypotension, galactorrhea are possible adverse effects of:

- \ \ Haloperidol
- \ \ Clozapine
- \ \ Chlorpromazine
- \ \ Risperidone

161. \ \ \ Orthostatic hypotension can occur as a result of:

- \ \ The central action of phenothiazines
- \ \ Alpha adrenoreceptor blockade
- \ \ None of the above
- \ \ All of the above

162. \ \ \ Adverse peripheral effects, such as loss of accommodation, dry mouth, tachycardia, urinary retention, constipation are related to:

- \ \ Alpha adrenoreceptor blockade
- \ \ Muscarinic cholinoreceptor blockade
- \ \ Supersensitivity of the dopamine receptor
- \ \ Dopamine receptor blockade

163. \ \ \ Which of the following antipsychotic agents is preferable in patients with coronary and cerebrovascular disease?

- \ \ Chlorpromazine
- \ \ Fluphenazine
- \ \ Haloperidol
- \ \ Perphenazine

164. \ \ \ Which of the following antipsychotic agents is used in combination with an opioid Fentanyl in neuroleptanalgesia?

- \ \ Haloperidol
- \ \ Droperidol
- \ \ Chlorpromazine
- \ \ Clozapine

165. \ \ \ Which of the following antipsychotic drugs has the high risk of potentially fatal agranulocytosis and risk of seizures at high doses?

- \ \ Haloperidol
- \ \ Risperidone
- \ \ Clozapine
- \ \ Chlorpromazine

166. \ \ \ Lithium carbonate is useful in the treatment of:

- \ \ Petit mal seizures
- \ \ Bipolar disorder
- \ \ Neurosis
- \ \ Trigeminal neuralgia

167. \\\ The drug of choice for manic-depressive psychosis is:
- \\ Imipramine
 - \\ Chlordiazepoxide
 - \\ Isocarboxazid
 - \\ Lithium carbonate
168. \\\ Which of the following statements is correct for lithium?
- \\ Stimulate dopamine and beta-adrenergic receptors
 - \\ Decrease catecholamine-related activity
 - \\ Stimulate the development of dopamine receptor supersensitivity
 - \\ Decrease cholinergic activity
169. \\\ Which of the following antidepressants is a selective serotonin reuptake inhibitor?
- \\ Phenelzine
 - \\ Desipramine
 - \\ Maprotiline
 - \\ Fluoxetine
170. \\\ Indicate the antidepressant, which blocks the reuptake pumps for serotonin and norepinephrine:
- \\ Amitriptyline
 - \\ Fluoxetine
 - \\ Maprotiline
 - \\ Phenelzine
171. \\\ Which of the following antidepressants is a selective short-acting MAO-A inhibitor?
- \\ Maprotiline
 - \\ Amitriptyline
 - \\ Moclobemide
 - \\ Selegiline
172. \\\ Which synapses are involved in depression?
- \\ Dopaminergic synapses
 - \\ Serotonergic synapses
 - \\ Cholinergic synapses
 - \\ All of the above
173. \\\ The irreversible MAO inhibitors have a very high risk of developing:
- \\ Respiratory depression
 - \\ Cardiovascular collapse and CNS depression
 - \\ Hypertensive reactions to tyramine ingested in food
 - \\ Potentially fatal agranulocytosis
174. \\\ The most dangerous pharmacodynamic interaction is between MAO inhibitors and:
- \\ Selective serotonin reuptake inhibitors
 - \\ Tricyclics
 - \\ Sympathomimetics
 - \\ All of the above
175. \\\ The therapeutic response to antidepressant drugs is usually over a period of:
- \\ 2-3 days
 - \\ 2-3 weeks
 - \\ 24 hours
 - \\ 2-3 month
176. \\\ Which of the following features do MAO inhibitors and tricyclic antidepressants have in common?
- \\ Act postsynaptically to produce their effect
 - \\ Can precipitate hypotensive crises if certain foods are ingested
 - \\ Increase levels of biogenic amines
 - \\ Are useful for the manic phase of bipolar disorder

177. \\\ Tricyclic antidepressants are:
- \\ Highly selective serotonin reuptake inhibitors
 - \\ Monoamine oxidase inhibitors
 - \\ Selective norepinephrine reuptake inhibitors
 - \\ Mixed norepinephrine and serotonin reuptake inhibitors
178. \\\ Which of the following autonomic nervous system effects is common for tricyclic antidepressants?
- \\ Antimuscarinic action
 - \\ Antihistaminic action
 - \\ Mixed norepinephrine and serotonin reuptake inhibitors
 - \\ All of the above
179. \\\ Fluoxetine has fewer adverse effects because of:
- \\ Mixed norepinephrine and serotonin reuptake inhibition
 - \\ Depleted stores of amine neurotransmitters
 - \\ Minimal binding to cholinergic, histaminic, and alpha-adrenergic receptors
 - \\ All of the above
180. \\\ Which of the following tricyclic and heterocyclic antidepressants has the greatest sedation?
- \\ Doxepin
 - \\ Amitriptyline
 - \\ Trazodone
 - \\ All of the above
181. \\\ Which of the following tricyclic and heterocyclic agents has the least sedation?
- \\ Protriptyline
 - \\ Trazodone
 - \\ Amitriptyline
 - \\ Mirtazapine
182. \\\ Indicate a tricyclic or a heterocyclic antidepressant having greatest antimuscarinic effects:
- \\ Desipramine
 - \\ Amitriptyline
 - \\ Trazodone
 - \\ Mirtazapine
183. \\\ Sedation, peripheral atropine-like toxicity (e.g. Cycloplegia, tachycardia, urinary retention, and constipation), orthostatic hypotension, arrhythmias, weight gain and sexual disturbances are possible adverse effects of:
- \\ Sertaline
 - \\ Amitriptyline
 - \\ Phenelsine
 - \\ Bupropion
184. \\\ Which of the following drugs is least likely to be prescribed to patients with prostatic hypertrophy, glaucoma, coronary and cerebrovascular disease?
- \\ Amitriptyline
 - \\ Paroxetine
 - \\ Bupropion
 - \\ Fluoxetine
185. \\\ Anxiolytics are used to treat:
- \\ Neurosis
 - \\ Psychosis
 - \\ Narcolepsy
 - \\ Bipolar disorders
186. \\\ Anxiolytics are also useful for:
- \\ Treatment of epilepsy and seizures
 - \\ Insomnia
 - \\ Muscle relaxation in specific neuromuscular disorders

\\ All of the above

187. \\\\ Indicate the agents of choice in the treatment of most anxiety states:

- \\ Barbiturates
- \\ Benzodiazepines
- \\ Lithium salts
- \\ Phenothiazines

188. \\\\ The choice of benzodiazepines for anxiety is based on:

- \\ A relatively high therapeutic index
- \\ Availability of flumazenil for treatment of overdose
- \\ A low risk of physiologic dependence
- \\ All of the above

189. \\\\ Indicate the benzodiazepine, which has the shortest elimination half-life:

- \\ Quazepam
- \\ Triazolam
- \\ Diazepam
- \\ Clorazepate

190. \\\\ Anxiolytic dosage reduction is recommended:

- \\ In patients taking cimetidine
- \\ In patients with hepatic dysfunction
- \\ In elderly patients
- \\ All of the above

191. \\\\ Which of the following benzodiazepines is preferred for elderly patients?

- \\ Clorazepate
- \\ Clordiazepoxide
- \\ Triazolam
- \\ Prazepam

192. \\\\ Which of the following anxiolytics is preferred in patient with limited hepatic function?

- \\ Buspirone
- \\ Quazepam
- \\ Diazepam
- \\ Chlordiazepoxide

193. \\\\ Indicate the mechanism of hypnotic benzodiazepine action:

- \\ Increasing the duration of the GABA-gated Cl⁻ channel openings
- \\ Directly activating the chloride channels
- \\ Increasing the frequency of Cl⁻ channel opening events
- \\ All of the above

194. \\\\ Which of the following anxiolytics is a partial agonist of brain 5-HT_{1A} receptors?

- \\ Buspirone
- \\ Alprozolam
- \\ Chlorazepat
- \\ Lorazepam

195. \\\\ Indicate the competitive antagonist of BZ receptors:

- \\ Flumazenil
- \\ Buspirone
- \\ Picrotoxin
- \\ Diazepam

196. \\\\ Antianxiety agents have:

- \\ Sedative and hypnotic activity
- \\ Muscle relaxing and anticonvulsant effects
- \\ Amnesic properties
- \\ All of the above

197. \\\ Indicate the anxiolytic agent, which relieves anxiety without causing marked sedative effects:
- \\ Diazepam
 - \\ Chlordiazepoxid
 - \\ Buspirone
 - \\ Clorazepate
198. \\\ Which of the following anxiolytics has minimal abuse liability?
- \\ Oxazepam
 - \\ Buspirone
 - \\ Flumazenil
 - \\ Alprazolam
199. \\\ In contrast to benzodiazepines, buspirone:
- \\ Interact directly with gabaergic system
 - \\ Has more marked hypnotic, anticonvulsant, or muscle relaxant properties
 - \\ Causes less psychomotor impairment and does not affect driving skills
 - \\ Has maximal abuse liability
200. \\\ Which of the following sedative-hypnotic drugs does not potentiate the CNS depressant effects of ethanol, phenothiazines, or tricyclic antidepressants?
- \\ Buspirone
 - \\ Phenobarbital
 - \\ Diazepam
 - \\ Chloralhydrate
201. \\\ Limitation of buspirone is:
- \\ A low therapeutic index
 - \\ An extremely slow onset of action
 - \\ A high potential of development of physical dependence
 - \\ Impairment of mentation or motor functions during working hours
202. \\\ Which drugs may be used as antianxiety agents?
- \\ BETA-blocking drugs
 - \\ Clonidine
 - \\ Tricyclic antidepressants
 - \\ All of the above
203. \\\ Additive CNS depression can be predicted if benzodiazepines are used with:
- \\ Ethanol
 - \\ Morphine
 - \\ Clorpromazine
 - \\ All of the above
204. \\\ Restlessness, anxiety, orthostatic hypotension, generalized seizures, severe tremor, vivid hallucination, and psychosis are possible symptoms of:
- \\ Tolerance
 - \\ Withdrawal
 - \\ Drug interactions between barbiturate and diazepam
 - \\ None of the above
205. \\\ Flumazenil is used to:
- \\ Reverse the CNS depressant effects of hypnotic benzodiazepines overdose
 - \\ Hasten recovery following use of hypnotic benzodiazepines in anesthetic and diagnostic procedure
 - \\ Reverse benzodiazepine-induced respiratory depression
 - \\ All of the above
206. \\\ Flumazenil given intravenously:
- \\ Has intermediate onset and duration of action about 2 hours
 - \\ Acts rapidly but has a short half-life
 - \\ Has an effect lasting 3-5 hours

\\ Has duration of action longer than 6 hours

207. \\ In contrast to morphine, heroin is:

- \\ Used clinically
- \\ More addictive and fast-acting
- \\ More effective orally
- \\ Less potent and long-acting

208. \\ Indicate the sedative-hypnotic agent, which has the highest abuse potential:

- \\ Buspirone
- \\ Diazepam
- \\ Phenobarbital
- \\ Zolpidem

209. \\ Barbiturate abstinence syndrome is shown by:

- \\ Crisis by 3 day of abstinence
- \\ Anxiety, mydriasis, myasthenia, muscular convulsions, vomiting, diarrhea
- \\ Psychosis as delirium (color visual and auditory hallucinations)
- \\ All of the above

210. \\ Which one of the following benzodiazepines belongs to strong euphorizing agents?

- \\ Mebicarum
- \\ Buspirone
- \\ Diazepam
- \\ Chlordiazepoxide

211. \\ Which of the following abused drugs is related to stimulants?

- \\ Cocaine
- \\ Amphetamine
- \\ Caffeine
- \\ All of the above

212. \\ Cocaine intoxication appears by:

- \\ Short clouding of consciousness, lightness of body and a feeling of flight
- \\ Wave warmth all over the body, physical bliss, motionlessness
- \\ Clear consciousness, improved mood, influx of physical and spiritual forces, locomotive and speech excitation, reappraisal of personality
- \\ All of the above

213. \\ Cocaine may cause:

- \\ Powerful vasoconstrictive reactions resulting in myocardial infarctions
- \\ The multiple brain perfusion defects
- \\ Spontaneous abortion during pregnancy
- \\ All of the above

214. \\ Overdoses of cocaine are usually rapidly fatal from:

- \\ Respiratory depression
- \\ Arrhythmias
- \\ Seizures
- \\ All of the above

215. \\ The state of “general anesthesia” usually includes:

- \\ Analgesia
- \\ Loss of consciousness, inhibition of sensory and autonomic reflexes
- \\ Amnesia
- \\ All of the above

216. \\ Indicate the anesthetic, which is an inhibitor of NMDA glutamate receptors:

- \\ Thiopental
- \\ Halothane
- \\ Ketamine

\\\ Sevoflurane

217. \\\ Which of the following general anesthetics belongs to inhalants?

\\\ Thiopental

\\ Desfluran

\\\ Ketamine

\\\ Propofol

218. \\\ Indicate the anesthetic, which is used intravenously:

\\ Propofol

\\\ Halothane

\\\ Desflurane

\\\ Nitrous oxide

219. \\\ Which of the following inhalants is a gas anesthetic?

\\\ Halothane

\\\ Isoflurane

\\ Nitrous oxide

\\\ Desflurane

220. \\\ Sevoflurane has largely replaced halothane and isoflurane as an inhalation anesthetic of choice because:

\\\ Induction of anesthesia is achieved more rapidly and smoothly

\\\ Recovery is more rapid

\\\ It has low post- anesthetic organ toxicity

\\ All of the above

221. \\\ Which of the following inhalants lacks sufficient potency to produce surgical anesthesia by itself and therefore is commonly used with another inhaled or intravenous anesthetic?

\\\ Halothane

\\\ Sevoflurane

\\ Nitrous oxide

\\\ Desflurane

222. \\\ Which of the following inhaled anesthetics has rapid onset and recovery?

\\ Nitrous oxide

\\\ Desflurane

\\\ Sevoflurane

\\ All of the above

223. \\\ Indicate the inhaled anesthetic, which reduces arterial pressure and heart rate:

\\\ Isoflurane

\\ Halothane

\\\ Desflurane

\\\ Nitrous oxide

224. \\\ Which of the following inhaled anesthetics is an induction agent of choice in patient with airway problems?

\\\ Desflurane

\\\ Nitrous oxide

\\ Halothane

\\\ None of the above

225. \\\ Indicate the inhaled anesthetic, which causes the airway irritation:

\\\ Nitrous oxide

\\\ Sevoflurane

\\\ Halothane

\\ Desflurane

226. \\\ Indicate the inhaled anesthetic, which should be avoided in patients with a history of seizure disorders:

- \\ Enflurane
- \\ Nitrous oxide
- \\ Sevoflurane
- \\ Desflurane

227. \\\\ Indicate the intravenous anesthetic, which is an ultra-short-acting barbiturate:

- \\ Fentanyl
- \\ Thiopental
- \\ Midazolam
- \\ Ketamine

228. \\\\ Which of the following agents is used to accelerate recovery from the sedative actions of intravenous benzodiazepine – midazolam?

- \\ Naloxone
- \\ Flumazenil
- \\ Ketamine
- \\ Fomepizole

229. \\\\ Indicate the intravenous anesthetic, which produces dissociative anesthesia:

- \\ Midazolam
- \\ Ketamine
- \\ Fentanyl
- \\ Thiopental

230. \\\\ Ketamine anesthesia is associated with:

- \\ Cardiovascular stimulation
- \\ Increased cerebral blood flow, oxygen consumption and intracranial pressure
- \\ Disorientation, sensory and perceptual illusions, and vivid dreams following anesthesia
- \\ All of the above

231. \\\\ Local anesthetics produce:

- \\ Analgesia, amnesia, loss of consciousness
- \\ Blocking pain sensation without loss of consciousness
- \\ Alleviation of anxiety and pain with an altered level of consciousness
- \\ A stupor or somnolent state

232. \\\\ Indicate the local anesthetic agent, which has a shorter duration of action:

- \\ Lidocaine
- \\ Procaine
- \\ Bupivacaine
- \\ Ropivacaine

233. \\\\ Indicate the local anesthetic, which is an ester of paraaminobenzoic acid:

- \\ Mepivacaine
- \\ Cocaine
- \\ Procaine
- \\ Lidocaine

234. \\\\ The primary mechanism of action of local anesthetics is:

- \\ Activation of ligand-gated potassium channels
- \\ Blockade of voltage-gated sodium channels
- \\ Stimulation of voltage-gated N-type calcium channels
- \\ Blockade the GABA-gated chloride channels

235. \\\\ Which of the following local anesthetics is more water-soluble?

- \\ Tetracaine
- \\ Etidocaine
- \\ Procaine
- \\ Bupivacaine

236. \\\\ Indicate the local anesthetic, which is more lipid-soluble:

- \ Bupivacaine
- \ \ Lidocaine
- \ \ Mepivacaine
- \ \ Procaine

237. \ \ \ The more lipophilic drugs:

- \ \ Are more potent
- \ \ Have longer duration of action
- \ \ Bind more extensively to proteins
- \ \ All of the above

238. \ \ \ Which of the following local anesthetics is an useful antiarrhythmic agent?

- \ \ Cocaine
- \ \ Lidocaine
- \ \ Bupivacaine
- \ \ Ropivacaine

239. \ \ \ The choice of a local anesthetic for specific procedures is usually based on:

- \ \ The duration of action
- \ \ Water solubility
- \ \ Capability of rapid penetration through the skin or mucosa with limited tendency to diffuse away from the site of application
- \ \ All of the above

240. \ \ \ The anesthetic effect of the agents of short and intermediate duration of action can not be prolonged by adding:

- \ \ Epinephrine
- \ \ Norepinephrine
- \ \ Dopamine
- \ \ Phenylephrine

241. \ \ \ Which of the following local anesthetics is only used for surface or topical anesthesia?

- \ \ Cocaine
- \ \ Tetracaine
- \ \ Procaine
- \ \ Bupivacaine

242. \ \ \ Indicate the local anesthetic, which is mainly used for regional nerve block anesthesia:

- \ \ Dibucaine
- \ \ Bupivacaine
- \ \ Tetracaine
- \ \ Cocaine

243. \ \ \ Which of the following local anesthetics is used for infiltrative and regional anesthesia?

- \ \ Procaine
- \ \ Lidocaine
- \ \ Mepivacaine
- \ \ All of the above

244. \ \ \ Most serious toxic reaction to local anesthetics is:

- \ \ Seizures
- \ \ Cardiovascular collapse
- \ \ Respiratory failure
- \ \ All of the above

245. \ \ \ Which of the following local anesthetics is more cardiotoxic?

- \ \ Procaine
- \ \ Bupivacaine
- \ \ Lidocaine
- \ \ Mepivacaine

246. \\\ \\\ Most local anesthetics can cause:
 \\\ Depression of abnormal cardiac pacemaker activity, excitability, conduction
 \\\ Depression of the strength of cardiac contraction
 \\\ Cardiovascular collapse
 \\\ All of the above
247. \\\ \\\ Which of the following local anesthetics is more likely to cause allergic reactions?
 \\\ Lidocaine
 \\\ Bupivacaine
 \\\ Procaine
 \\\ Ropivacaine

CARDIAC AND RENAL PHARMACOLOGY

248. \\\ \\\ Following a myocardial infarct, a 40-year-old male patient is being treated with a drug that affords prophylaxis against cardiac arrhythmias. He complains of dizziness and feelings of nausea but has not vomited. Sometimes he sees "double," and bright lights bother him. ECG reveals prolongation of the QRS complex and increased QT interval. The drug most likely to be responsible for these effects is
 \\\ acebutolol
 \\\ lidocaine
 \\\ procainamide
 \\\ quinidine
249. \\\ \\\ Which one of the following drugs is associated with the development of a lupus-like syndrome, especially in patients identified as "slow acetylators"?
 \\\ Amiodarone
 \\\ Clonidine
 \\\ Nitroglycerin
 \\\ Procainamide
250. \\\ \\\ Which one of the following actions is characteristic of amiloride?
 \\\ Alkalosis
 \\\ Block of Na reabsorption in the proximal tubule
 \\\ Hyperkalemia
 \\\ Increased tubular reabsorption of Ca^{2+}
251. \\\ \\\ The most common manifestation of lidocaine toxicity is
 \\\ CNS dysfunction
 \\\ drug fever
 \\\ hypertension
 \\\ hypokalemia
252. \\\ \\\ A patient with hyperthyroidism develops a cardiac arrhythmia. Optimal treatment of the patient should include management with
 \\\ amiodarone
 \\\ bretylium
 \\\ digoxin
 \\\ propranolol
253. \\\ \\\ Metoprolol is preferred over propranolol in some patients because it
 \\\ causes less cardiodepression
 \\\ is less likely to cause bronchoconstriction
 \\\ has both alpha- and beta-adrenoceptor blocking effects
 \\\ is more effective as an antiarrhythmic
254. \\\ \\\ Calcium channel antagonists
 \\\ increase intracellular cAMP
 \\\ decrease myocardial contractility

- \\ reactivation of Na^+ channels
- \\ intracellular K^+

255. \\ In terms of the ability of drugs like digoxin to increase cardiac contractility, their primary action on cardiac cells is

- \\ activation of adenylyl cyclase
- \\ inactivation of Na channels
- \\ activation of the slow Ca^{2+} channel
- \\ inhibition of Na^+/K^+ -ATPase

256. \\ A 54-year-old male patient with hypertension has been treated with a thiazide and clonidine for several years, with repeated BP measurements close to 140/90 and no significant side effects, except a decreased sexual interest. In your office, he complains of palpitations, and now his pulse is 100/min with BP of 165/118 both sitting and standing. He has not gained weight but admits to mild anxiety over his marital relationship. The most likely cause of his current problem is

- \\ a dietary change to include foods containing tyramine
- \\ discontinuance of clonidine
- \\ excessive use of alcoholic beverages
- \\ salt and water retention

257. \\ Which one of the following drugs is most likely to cause symptoms of severe depressive disorder when used in the treatment of hypertensive patients?

- \\ Captopril
- \\ Hydrochlorothiazide
- \\ Prazosin
- \\ Reserpine

258. \\ Enhancement of the effects of bradykinin is most likely to occur with drugs like

- \\ clonidine
- \\ diazoxide
- \\ lisinopril
- \\ losartan

259. \\ Following a myocardial infarction, a patient in the emergency room of a hospital develops ventricular tachycardia. The best way to manage this situation is with the administration of

- \\ adenosine
- \\ diltiazem
- \\ esmolol
- \\ lidocaine

260. \\ In a patient suffering from angina of effort, nitroglycerin may be given sublingually because this mode of administration

- \\ bypasses the coronary circulation
- \\ causes less reflex tachycardia than oral administration
- \\ improves patient compliance
- \\ avoids first-pass hepatic metabolism

261. \\ The most cardiac manifestation of glycosides intoxication is:

- \\ Atrioventricular junctional rhythm
- \\ Second-degree atrioventricular blockade
- \\ Ventricular tachycardia
- \\ All the above

262. \\ The manifestations of glycosides intoxication are:

- \\ Visual changes
- \\ Ventricular tachyarrhythmias
- \\ Gastrointestinal disturbances
- \\ All the above

263. \\ In very severe digitalis intoxication the best choice is to use:

- \\ Lidocaine

- \ \ Digibind (Digoxin immune fab)
- \ \ \ Oral potassium supplementation
- \ \ \ Reducing the dose of the drug

264. \ \ \ This drug is a selective beta-1 agonist:

- \ \ Digoxin
- \ \ Dobutamine
- \ \ \ Amrinone
- \ \ \ Dopamine

265. \ \ \ Tolerance to this inotropic drug develops after a few days:

- \ \ \ Amrinone
- \ \ \ Amiodarone
- \ \ Dobutamine
- \ \ Adenosine

266. \ \ \ This drug is a Class IA antiarrhythmic drug:

- \ \ Sotalol
- \ \ \ Propranolol
- \ \ \ Verapamil
- \ \ Quinidine

267. \ \ \ This drug is a Class IC antiarrhythmic drug:

- \ \ Flecainide
- \ \ \ Sotalol
- \ \ \ Lidocaine
- \ \ \ Verapamil

268. \ \ \ This drug is a Class II antiarrhythmic drug:

- \ \ \ Flecainide
- \ \ Propranolol
- \ \ \ Lidocaine
- \ \ \ Verapamil

269. \ \ \ This drug is a Class III antiarrhythmic drug:

- \ \ \ Flecainide
- \ \ Sotalol
- \ \ \ Lidocaine
- \ \ \ Verapamil

270. \ \ \ This drug prolongs repolarization:

- \ \ \ Flecainide
- \ \ Sotalol
- \ \ \ Lidocaine
- \ \ \ Verapamil

271. \ \ \ This drug is a Class IV antiarrhythmic drug:

- \ \ \ Flecainide
- \ \ \ Sotalol
- \ \ \ Lidocaine
- \ \ Verapamil

272. \ \ \ This drug is used in treating supraventricular tachycardias:

- \ \ Digoxin
- \ \ \ Dobutamine
- \ \ \ Amrinone
- \ \ \ Dopamine

273. \ \ \ This drug has beta-adrenergic blocking activity:

- \ \ \ Flecainide
- \ \ Sotalol

- \\ Lidocaine
- \\ Verapamil

274. \\ This drug is useful in terminating atrial but not ventricular tachycardias:

- \\ Flecainide
- \\ Sotalol
- \\ Lidocaine
- \\ Verapamil

275. \\ This drug is an effective bronchodilator:

- \\ Nifedipine
- \\ Verapamil
- \\ Both of the above.
- \\ None of the above

276. \\ This drug is used intravenously to terminate supraventricular tachycardias:

- \\ Nifedipine
- \\ Verapamil
- \\ Both of the above
- \\ None of the above

277. \\ This drug has a little or no direct effect on chronotropy and dromotropy at normal doses

- \\ Nifedipine
- \\ Diltiazem
- \\ Verapamil
- \\ All of the above

278. \\ This drug acts by inhibiting slow calcium channels in the SA and AV nodes:

- \\ Quinidine
- \\ Adenosine
- \\ Flecainide
- \\ Diltiazem

279. \\ Tick the adverse reactions characteristic for lidocaine:

- \\ Agranulocytosis, leucopenia
- \\ Extrapyramidal disorders
- \\ Hypotension, paresthesias, convulsions
- \\ Bronchospasm, dyspepsia

280. \\ Which of the following statements concerning nitrate mechanism of action is True?

- \\ Therapeutically active agents in this group are capable of releasing nitric oxide (NO) in to vascular smooth muscle target tissues
- \\ Nitric oxide (NO) is an effective activator of soluble guanylyl cyclase and probably acts mainly through this mechanism
- \\ Nitrates useful in angina decrease myocardial oxygen requirement (by decreasing the determinations of oxygen demand) and increase myocardial oxygen delivery (by reversing coronary arterial spasm)
- \\ All of the above

281. \\ Which of the following nitrates and nitrite drugs are long-acting?

- \\ Nitroglycerin, sublingual
- \\ Isosorbide dinitrate, sublingual (Isordil, Sorbitrate)
- \\ Amyl nitrite, inhalant (Aspirols, Vaporole)
- \\ Nitroglycerin oral

282. \\ Which of the following nitrates and nitrite drugs is a short-acting drug?

- \\ Nitroglycerin, 2% ointment (Nitrol)
- \\ Nitroglycerin, oral sustained-release (Nitrong)
- \\ Nitroglycerin sublingual
- \\ Nitroglycerin oral

283. \\ Duration of sublingual nitroglycerin action (sublingual) is:

- \ 10-30 minutes
- \ 6-8 hours
- \ 3-5 minutes
- \ 1.5-2 hours

284. \ \ \ Which of the following antianginal agents is a calcium channel blocker?

- \ Nitroglycerin
- \ Isosorbite dinitrate
- \ Minoxidil
- \ Nifedipine

285. \ \ \ Which of the following cardiovascular system effects refers to a calcium channel blocker?

- \ The reduction of peripheral vascular resistance
- \ The reduction of cardiac contractility and, in some cases, cardiac output
- \ Relief of coronary artery spasm
- \ All of the above

286. \ \ \ Main clinical use of calcium channel blockers is:

- \ Angina pectoris
- \ Hypertension
- \ Supraventricular tachyarrhythmias
- \ All of the above

287. \ \ \ Which of the following statements concerning beta-adrenoceptor-blocking drugs are true:

- \ These agents decrease transmembrane calcium current associated in a smooth muscle with long-lasting relaxation and in a cardiac muscle with a reduction in contractility
- \ These agents has a moderate reflex and vascular dilative action caused by the stimulation of sensitive nerve endings
- \ Beneficial effects of these agents are related primarily to their hemodynamic effects – decreased heart rate, blood pressure, and contractility – which decrease myocardial oxygen requirements at rest and during exercise
- \ These agents increase the permeability of K channels, probably ATP-dependent K channels, that results in stabilizing the membrane potential of excitable cells near the resting potential

288. \ \ \ Which of the following antianginal agents is a potassium channel activator:

- \ Dipyridamole
- \ Propranolol
- \ Atenolol
- \ Minoxidil

289. \ \ \ Which of the following statements concerning potassium channel activators is true?

- \ These agents decrease transmembrane calcium current associated in a smooth muscle with long-lasting relaxation and in a cardiac muscle with a reduction in contractility
- \ These agents has a moderate reflex and vascular dilative action caused by the stimulation of sensitive nerve endings
- \ Beneficial effects of these agents are related primarily to their hemodynamic effects – decreased heart rate, blood pressure, and contractility – which decrease myocardial oxygen requirements at rest and during exercise
- \ These agents increase the permeability of K channels, probably ATP-dependent K channels, that results in stabilizing the membrane potential of excitable cells near the resting potential

290. \ \ \ This drug reduces blood pressure by acting on vasomotor centers in the CNS:

- \ Labetalol
- \ Clonidine
- \ Enalapril
- \ Nifedipine

291. \ \ \ Pick out the sympatholytic drug:

- \ Labetalol
- \ Prazosin
- \ Guanethidine
- \ Clonidine

292. \ \ \ Tick the drug with nonselective beta-adrenoblocking activity:

- \ Atenolol

\\ Propranolol
\\ \\ Metoprolol
\\ \\ Nebivolol

293. \\ \\ Choose the selective blocker of beta-1 adrenoreceptors:
\\ \\ Labetalol
\\ \\ Prazosin
\\ Atenolol
\\ \\ Propranolol

294. \\ \\ Pick out the drug – an alpha and beta adrenoreceptors blocker:
\\ Labetalol
\\ \\ Verapamil
\\ \\ Nifedipine
\\ \\ Metoprolol

295. \\ \\ This drug inhibits the angiotensin-converting enzyme:
\\ \\ Captopril
\\ \\ Enalapril
\\ \\ Ramipril
\\ All of the above

296. \\ \\ This drug is a directly acting vasodilator:
\\ \\ Labetalol
\\ \\ Clonidine
\\ \\ Enalapril
\\ Nifedipine

297. \\ \\ Pick out the diuretic agent for hypertension treatment:
\\ \\ Losartan
\\ Dichlothiazide
\\ \\ Captopril
\\ \\ Prazosin

298. \\ \\ This drug activates alpha-2 adrenergic receptors:
\\ \\ Labetalol
\\ \\ Phentolamine
\\ Clonidine
\\ \\ Enalapril

299. \\ \\ This drug is an inhibitor of renin synthesis:
\\ Propranolol
\\ \\ Enalapril
\\ \\ Diazoxide
\\ \\ Losartan

300. \\ \\ This drug is a non-peptide angiotensin II receptor antagonist:
\\ \\ Clonidine
\\ \\ Captopril
\\ Losartan
\\ \\ Diazoxide

301. \\ \\ This drug is a potassium channel activator:
\\ \\ Nifedipine
\\ \\ Saralasin
\\ Diazoxide
\\ \\ Losartan

302. \\ \\ This drug is contraindicated in patients with bronchial asthma:
\\ Propranolol
\\ \\ Clonidine

- \\ Enalapril
- \\ Nifedipine

303. \\\\ This drug is converted to an active metabolite after absorption:

- \\ Labetalol
- \\ Clonidine
- \\ Enalapril
- \\ Nifedipine

304. \\\\ This drug routinely produces some tachycardia:

- \\ Propranolol
- \\ Clonidine
- \\ Enalapril
- \\ Nifedipine

305. \\\\ The reason of beta-blockers administration for hypertension treatment is:

- \\ Peripheral vasodilatation
- \\ Diminishing of blood volume
- \\ Decreasing of heart work
- \\ Depression of vasomotor center

306. \\\\ An endogenous vasoconstrictor that can stimulate aldosterone release from suprarenal glands:

- \\ Angiotensinogen
- \\ Angiotensin I
- \\ Angiotensin II
- \\ Angiotensin-converting enzyme

307. \\\\ Choose the group of antihypertensive drugs which diminishes the metabolism of bradykinin:

- \\ Ganglioblockers
- \\ Alfa-adrenoblockers
- \\ Angiotensin-converting enzyme inhibitors
- \\ Diuretics

308. \\\\ Hydralazine (a vasodilator) can produce:

- \\ Seizures, extrapyramidal disturbances
- \\ Tachycardia, lupus erythromatosis
- \\ Acute hepatitis
- \\ Aplastic anemia

309. \\\\ Choose the vasodilator which releases NO:

- \\ Nifedipine
- \\ Hydralazine
- \\ Minoxidil
- \\ Sodium nitroprusside

310. \\\\ The reason of diuretics administration for hypertension treatment is:

- \\ Block the adrenergic transmission
- \\ Diminishing of blood volume and amount of Na⁺ ions in the vessels endothelium
- \\ Depression of rennin-angiotensin-aldosterone system
- \\ Depression of the vasomotor center

311. \\\\ Tick the diuretic agent – aldosterone antagonist:

- \\ Furosemide
- \\ Spironolactone
- \\ Dichlothiazide
- \\ Captopril

312. \\\\ Tick the diuretic agent having a potent and rapid effect:

- \\ Furosemide
- \\ Spironolactone
- \\ Dichlothiazide

\\ Indapamide

313. \\ Tick the synthetic vasoconstrictor having an adrenomimic effect:

- \\ Noradrenalin
- \\ Adrenalin
- \\ Phenylephrine
- \\ Angiotensin

314. \\ Indicate the vasoconstrictor of endogenous origin:

- \\ Ephedrine
- \\ Phenylephrine
- \\ Xylomethazoline
- \\ Angiotensin

315. \\ For increasing blood pressure in case of low cardiac output the following agents must be used:

- \\ Ganglioblockers
- \\ Vasoconstrictors
- \\ Positive inotropic drugs
- \\ Diuretics

316. \\ Tick the positive inotropic drug of glycoside structure:

- \\ Dopamine
- \\ Digoxin
- \\ Dobutamine
- \\ Adrenalin

317. \\ Tick the positive inotropic drug of non-glycoside structure:

- \\ Digitoxin
- \\ Digoxin
- \\ Dobutamine
- \\ Strophanthin

318. \\ Dopamine at low doses influences mainly:

- \\ Alfa-adrenoreceptors (leads to peripheral vasoconstriction)
- \\ Dopamine receptors (leads to vasodilation of renal and mesenterial vessels)
- \\ Beta-1 adrenoreceptors (leads to enhanced cardiac output)
- \\ All of the above

319. \\ Dopamine at medium doses influences mainly:

- \\ Alfa-adrenoreceptors (leads to peripheral vasoconstriction)
- \\ Dopamine receptors (leads to vasodilation of renal and mesenterial vessels)
- \\ Beta-1 adrenoreceptors (leads to enhanced cardiac output)
- \\ All of the above

320. \\ Dopamine in high doses influences mainly the:

- \\ Alfa-adrenoreceptors (leads to peripheral vasoconstriction)
- \\ Dopamine's receptors (leads to vasodilation of renal and mesenterial vessels)
- \\ Beta-1 adrenoreceptors (leads to enhancing of cardiac output)
- \\ All of the above

321. \\ Tick the drug influencing the blood flow which is related to antiplatelet agents:

- \\ Heparin
- \\ Aspirin
- \\ Warfarin
- \\ Propranolol

322. \\ Which of the following drugs is related to anticoagulants and may be useful in disorders of cerebral circulation?

- \\ Aspirin
- \\ Nimodipine
- \\ Diltiazem

\\ Heparin

323. \\\\ Indicate the drugs which are Ca-channel blockers influencing the brain blood flow:

\\ Warfarin

\\ Nimodipine, Cinnarizine

\\ Heparin

\\ Propranolol

GI TRACT

324. \\\\ Indicate the drug belonging to proton pump inhibitors:

\\ Pirenzepine

\\ Ranitidine

\\ Omeprazole

\\ Trimethaphan

325. \\\\ Choose the drug which is a H₂-receptor antagonist:

\\ Omeprazole

\\ Pirenzepine

\\ Carbenoxolone

\\ Ranitidine

326. \\\\ Indicate the drug belonging to M₁-cholinoblockers:

\\ Cimetidine

\\ Ranitidine

\\ Pirenzepin

\\ Omeprazole

327. \\\\ Which of the following drugs may cause reversible gynecomastia?

\\ Omeprazole

\\ Pirenzepine

\\ Cimetidine

\\ Sucralfate

328. \\\\ Tick the drug forming a physical barrier to HCL and Pepsin:

\\ Ranitidine

\\ Sucralfate

\\ Omeprazole

\\ Pirenzepine

329. \\\\ Which drug is an analog of prostaglandin E₁ ?

\\ Misoprostole

\\ De-nol

\\ Sucralfate

\\ Omeprazole

330. \\\\ Select the drug stimulating the protective function of the mucous barrier and the stability of the mucous membrane against damaging factors:

\\ Pirenzipine

\\ Sucralfate

\\ Misoprostol

\\ Omeprazole

331. \\\\ Indicate the drug that cause metabolic alkalosis:

- \ Sodium bicarbonate
- \ \ Cimetidine
- \ \ Pepto-Bismol
- \ \ Carbenoxolone

332. \ \ \ Choose the drug that causes constipation:

- \ \ Sodium bicarbonate
- \ \ Aluminium hydroxide
- \ \ Calcium carbonate
- \ \ Magnesium oxide

333. \ \ \ Tick the mechanism of Metoclopramide antiemetic action:

- \ \ H₁ and H₂-receptor blocking effect
- \ \ M-cholinoreceptor stimulating effect
- \ \ D₂-dopamine and 5-HT₃-serotonin receptor blocking effect
- \ \ M-cholinoblocking effect

ANTIBIOTICS

334. \ \ \ General principles of anti-infective therapy are:

- \ \ Clinical judgment of microbiological factors
- \ \ Definitive identification of a bacterial infection and the microorganism's susceptibility
- \ \ Optimal route of administration, dose, dosing frequency and duration of treatment
- \ \ All of the above

335. \ \ \ Minimal duration of antibacterial treatment usually is:

- \ \ Not less than 1 day
- \ \ Not less than 5 days
- \ \ Not less than 10-14 days
- \ \ Not less than 3 weeks

336. \ \ \ Rational anti-microbial combination is used to:

- \ \ Provide synergism when microorganisms are not effectively eradicated with a single agent alone
- \ \ Provide broad coverage
- \ \ Prevent the emergence of resistance
- \ \ All of the above

337. \ \ \ Which of the following groups of antibiotics demonstrates a bactericidal effect?

- \ \ Tetracyclines
- \ \ Macrolides
- \ \ Penicillins
- \ \ All of the above

338. \ \ \ Bacteristatic effect is:

- \ \ Inhibition of bacterial cell division
- \ \ Inhibition of young bacterial cells growth
- \ \ Destroying of bacterial cells
- \ \ Formation of bacterial L-form

339. \ \ \ Which of the following groups of antibiotics demonstrates a bacteristatic effect:

- \ \ Carbapenems
- \ \ Macrolides
- \ \ Aminoglycosides
- \ \ Cephalosporins

340. \ \ \ Which of the following antibiotics contains a beta-lactam ring in their chemical structure :

- \ \ Penicillins
- \ \ Cephalosporins
- \ \ Carbapenems and monobactams
- \ \ All groups

341. \\\ Tick the drug belonging to antibiotics-macrolides:
\\ Neomycin
\\ Doxycycline
\\ Erythromycin
\\ Cefotaxime
342. \\\ Tick the drug belonging to antibiotics-carbapenems:
\\ Aztreonam
\\ Amoxicillin
\\ Imipinem
\\ Clarithromycin
343. \\\ Tick the drug belonging to antibiotics-monobactams:
\\ Ampicillin
\\ Bicillin-5
\\ Aztreonam
\\ Imipinem
344. \\\ Tick the drug belongs to antibiotics-cephalosporins:
\\ Streptomycin
\\ Cefaclor
\\ Phenoxymethylpenicillin
\\ Erythromycin
345. \\\ Tick the drug belonging to antibiotics-tetracyclines:
\\ Doxycycline
\\ Streptomycin
\\ Clarithromycin
\\ Amoxicillin
346. \\\ Antibiotics inhibiting the bacterial cell wall synthesis are:
\\ Beta-lactam antibiotics
\\ Tetracyclines
\\ Aminoglycosides
\\ Macrolides
347. \\\ Antibiotic inhibiting bacterial RNA synthesis is:
\\ Erythromycin
\\ Rifampin
\\ Chloramphenicol
\\ Imipinem
348. \\\ Antibiotics altering permeability of cell membranes are:
\\ Glycopeptides
\\ Polymyxins
\\ Tetracyclines
\\ Cephalosporins
349. \\\ Biosynthetic penicillins are effective against:
\\ Gram-positive and gram-negative cocci, Corynebacterium diphtheria, spirochetes, Clostridium gangrene
\\ Corynebacterium diphtheria, mycobacteries
\\ Gram positive cocci, viruses
\\ Gram negative cocci, Rickettsia, mycotic infections
350. \\\ Which of the following drugs is a gastric acid resistant:
\\ Penicillin G
\\ Penicillin V
\\ Carbenicillin
\\ Procain penicillin
351. \\\ Which of the following drugs is penicillinase resistant:

- \ Oxacillin
- \ Amoxicillin
- \ Bicillin-5
- \ Penicillin G

352. Mechanism of penicillins' antibacterial effect is:

- \ Inhibition of transpeptidation in the bacterial cell wall
- \ Inhibition of beta-lactamase in the bacterial cell
- \ Activation of endogenous proteases, that destroy bacterial cell wall
- \ Activation of endogenous phospholipases, which leads to alteration of cell membrane permeability

353. Pick out the beta-lactamase inhibitor for co-administration with penicillins:

- \ Clavulanic acid
- \ Sulbactam
- \ Tazobactam
- \ All of the above

354. Carbapenems are effective against:

- \ Gram-positive microorganisms
- \ Gram-negative microorganisms
- \ Only bacteroid infections
- \ Broad-spectrum

355. Tetracyclins have following unwanted effects:

- \ Irritation of gastrointestinal mucosa, phototoxicity
- \ Hepatotoxicity, anti-anabolic effect
- \ Dental hypoplasia, bone deformities
- \ All of the above

356. Tick the drug belonging to antibiotics-aminoglycosides:

- \ Erythromycin
- \ Gentamycin
- \ Vancomycin
- \ Polymyxin

357. Aminoglycosides have the following unwanted effects:

- \ Pancytopenia
- \ Hepatotoxicity
- \ Ototoxicity, nephrotoxicity
- \ Irritation of gastrointestinal mucosa

358. Which of the following drugs is used for systemic and deep mycotic infections treatment:

- \ Co-trimoxazol
- \ Griseofulvin
- \ Amphotericin B
- \ Nitrofungin

359. Which of the following drugs is used for dermatomycosis treatment:

- \ Nystatin
- \ Griseofulvin
- \ Amphotericin B
- \ Vancomycin

360. Which of the following drugs is used for candidiasis treatment:

- \ Griseofulvin
- \ Nitrofungin
- \ Myconazol
- \ Streptomycin

361. Mechanism of Amphotericin B action is:

- \ Inhibition of cell wall synthesis

- \\ Inhibition of fungal protein synthesis
- \\ Inhibition of DNA synthesis
- \\ Alteration of cell membrane permeability

362. \\ Which of the following drugs alters permeability of Candida cell membranes:

- \\ Amphotericin B
- \\ Ketoconazole
- \\ Nystatin
- \\ Terbinafine

363. \\ Amfotericin B has the following unwanted effects:

- \\ Psychosis
- \\ Renal impairment, anemia
- \\ Hypertension, cardiac arrhythmia
- \\ Bone marrow toxicity

364. \\ Tick the drug belonging to antibiotics having a polyene structure:

- \\ Nystatin
- \\ Ketoconazole
- \\ Griseofulvin
- \\ All of the above

365. \\ Mechanism of sulfonamides' antibacterial effect is:

- \\ Inhibition of dihydropteroate reductase
- \\ Inhibition of dihydropteroate synthase
- \\ Inhibition of cyclooxygenase
- \\ Activation of DNA gyrase

366. \\ Combination of sulfonamides with trimethoprim:

- \\ Decreases the unwanted effects of sulfonamides
- \\ Increases the antimicrobial activity
- \\ Decreases the antimicrobial activity
- \\ Increases the elimination of sulfonamides

367. \\ Sulfonamide potency is decreased in case of co-administration with:

- \\ Oral hypoglycemic agents
- \\ Local anesthetics – derivatives of paraaminobenzoic acid
- \\ Local anesthetics – derivatives of benzoic acid
- \\ Non-narcotic analgesics

368. \\ The following measures are necessary for prevention of sulfonamide precipitation and crystalluria:

- \\ Taking of drinks with acid pH
- \\ Taking of drinks with alkaline pH
- \\ Taking of saline drinks
- \\ Restriction of drinking

369. \\ Mechanism of Trimethoprim' action is:

- \\ Inhibition of cyclooxygenase
- \\ Inhibition of dihydropteroate reductase
- \\ Inhibition of dihydropteroate synthase
- \\ Inhibition of DNA gyrase

370. \\ Sulfonamides have the following unwanted effects:

- \\ Hematopoietic disturbances
- \\ Crystalluria
- \\ Nausea, vomiting and diarrhea
- \\ All of the above

371. \\ Tick the drug, which is effective against mycobacteria only:

- \\ Isoniazid
- \\ Streptomycin

- \\ Rifampin
- \\ Kanamycin

372. \\ Tick the antimycobacterial drug belonging to first-line agents:
\\ PAS
\\ Isoniazid
\\ Kanamycin
\\ Pyrazinamide

373. \\ Mechanism of Isoniazid action is:
\\ Inhibition of protein synthesis
\\ Inhibition of mycolic acids synthesis
\\ Inhibition of RNA synthesis
\\ Inhibition of ADP synthesis

374. \\ Mechanism of Rifampin action is:
\\ Inhibition of mycolic acids synthesis
\\ Inhibition of DNA dependent RNA polymerase
\\ Inhibition of topoisomerase II
\\ Inhibition of cAMP synthesis

375. \\ Mechanism of Cycloserine action is:
\\ Inhibition of mycolic acids synthesis
\\ Inhibition of RNA synthesis
\\ Inhibition of cell wall synthesis
\\ Inhibition of pyridoxalphosphate synthesis

376. \\ Mechanism of Streptomycin action is:
\\ Inhibition of cell wall synthesis
\\ Inhibition of protein synthesis
\\ Inhibition of RNA and DNA synthesis
\\ Inhibition of cell membranes permeability

377. \\ Rifampin has the following unwanted effect:
\\ Dizziness, headache
\\ Loss of hair
\\ Flu-like syndrome, tubular necrosis
\\ Hepatotoxicity

378. \\ Isoniazid has following unwanted effect:
\\ Cardiotoxicity
\\ Hepatotoxicity, peripheral neuropathy
\\ Loss of hair
\\ Immunotoxicity

379. \\ Ethambutol has the following unwanted effect:
\\ Cardiotoxicity
\\ Immunotoxicity
\\ Retrobulbar neuritis with red-green color blindness
\\ Hepatotoxicity

380. \\ Streptomycin has the following unwanted effect:
\\ Cardiotoxicity
\\ Hepatotoxicity
\\ Retrobulbar neuritis with red-green color blindness
\\ Ototoxicity, nephrotoxicity

381. \\ Combined chemotherapy of tuberculosis is used to:
\\ Decrease mycobacterium drug-resistance
\\ Increase mycobacterium drug-resistance
\\ Decrease the antimicrobial activity

\\ Decrease the onset of antimycobacterial drugs biotransformation:

382. \\ Tick the antibacterial drug – a nitroimidazole derivative:

- \\ Clavulanic acid
- \\ Metronidazole
- \\ Nitrofurantoin
- \\ Doxycycline

383. \\ Tick the antibacterial drug – a fluoroquinolone derivative:

- \\ Chloramphenicol
- \\ Nitrofurantoin
- \\ Nalidixic acid
- \\ Ciprofloxacin

384. \\ Tick the indications for nitrofuranes:

- \\ Infections of respiratory tract
- \\ Infections of urinary and gastro-intestinal tracts
- \\ Syphilis
- \\ Tuberculosis

385. \\ Tick the unwanted effects of nitrofuranes:

- \\ Nausea, vomiting
- \\ Allergic reactions
- \\ Hemolytic anemia
- \\ All of the above

386. \\ Tick the indications for Metronidazole:

- \\ Intra-abdominal infections, vaginitis, enterocolitis
- \\ Pneumonia
- \\ As a disinfectant
- \\ Influenza

387. \\ Tick the unwanted effects of Metronidazole:

- \\ Nausea, vomiting, diarrhea, stomatitis
- \\ Hypertension
- \\ Disturbances of peripheral blood circulation
- \\ All of the above

388. \\ The mechanism of fluoroquinolones' action is:

- \\ Inhibition of phospholipase C
- \\ Inhibition of DNA gyrase
- \\ Inhibition of bacterial cell synthesis
- \\ Alteration of cell membrane permeability

389. \\ Fluoroquinolones are active against:

- \\ Gram negative microorganisms only
- \\ Mycoplasmas and Chlamidiae only
- \\ Gram positive microorganisms only
- \\ Variety of Gram-negative and positive microorganisms, including Mycoplasmas and Chlamidiae

390. \\ Tick the unwanted effects of fluoroquinolones:

- \\ Hallucinations
- \\ Headache, dizziness, insomnia
- \\ Hypertension
- \\ Immunotoxicity

391. \\ Tick the indications for fluoroquinolones:

- \\ Infections of the urinary tract
- \\ Bacterial diarrhea
- \\ Infections of the urinary and respiratory tract, bacterial diarrhea
- \\ Respiratory tract infections

392. \\\ Tick the drug used for trichomoniasis treatment:
- \ Metronidazole
 - \ Suramin
 - \ Pyrimethamine
 - \ Tetracycline
393. \\\ Tick the drug used for leishmaniasis treatment:
- \ Pyrimethamine
 - \ Albendazole
 - \ Sodium stibogluconate
 - \ Tinidazole
394. \\\ Tick the antimalarial drug influencing tissue schizonts:
- \ Mefloquine
 - \ Chloroquine
 - \ Quinidine
 - \ Primaquine
395. \\\ Tick the group of antibiotics having an antimalarial effect:
- \ Aminoglycosides
 - \ Tetracyclins
 - \ Carbapenems
 - \ Penicillins
396. \\\ Tick the drugs for the treatment of an intestinal form of amebiasis:
- \ Metronidazole and diloxanide
 - \ Diloxanide and streptomycin
 - \ Diloxanide and Iodoquinol
 - \ Emetine and metronidazole
397. \\\ Tick the drug for the treatment of a hepatic form of amebiasis:
- \ Diloxanide or iodoquinol
 - \ Tetracycline or doxycycline
 - \ Metronidazole or emetine
 - \ Erythromycin or azitromycin
398. \\\ Tick the luminal amebicide drug:
- \ Metronidazole
 - \ Emetine
 - \ Doxycycline
 - \ Diloxanide
399. \\\ Tick the drug of choice for the treatment of extraluminal amebiasis:
- \ Iodoquinol
 - \ Metronidazole
 - \ Diloxanide
 - \ Tetracycline
400. \\\ Tick the drug, blocking acetylcholine transmission at the myoneural junction of helminthes:
- \ Levamisole
 - \ Mebendazole
 - \ Piperazine
 - \ Niclosamide
401. \\\ Tick the drug, inhibiting oxidative phosphorylation in some species of helminthes:
- \ Niclosamide
 - \ Piperazine
 - \ Praziquantel
 - \ Mebendazole

402. \\\ Tick the drug for nematodosis (roundworm invasion) treatment:
\\ Niclosamide
\\ Praziquantel
\\ Bithionol
\\ Pyrantel
403. \\\ Tick the broad spectrum drug for cestodosis, trematodosis and cycticercosis treatment:
\\ Piperazine
\\ Ivermectine
\\ Praziquantel
\\ Pyrantel
404. \\\ Tick the drug for ascaridosis and enterobiosis treatment:
\\ Bithionol
\\ Pyrantel
\\ Praziquantel
\\ Suramin
405. \\\ Tick the drug for echinococcosis treatment:
\\ Suramin
\\ Mebendazole or Albendazole
\\ Piperazine
\\ Iodoquinol
406. \\\ Tick the drug, inhibiting viral DNA synthesis:
\\ Interferon
\\ Saquinavir
\\ Amantadine
\\ Acyclovir
407. \\\ Tick the drug, inhibiting viral reverse transcriptase:
\\ Zidovudine
\\ Vidarabine
\\ Rimantadine
\\ Gancyclovir
408. \\\ Tick the drug of choice for herpes and cytomegalovirus infection treatment:
\\ Saquinavir
\\ Interferon alfa
\\ Didanosine
\\ Acyclovir
409. \\\ Tick the drug used for HIV infection treatment, a derivative of nucleosides:
\\ Acyclovir
\\ Zidovudine
\\ Gancyclovir
\\ Trifluridine
410. \\\ Tick the antiviral drug which belongs to endogenous proteins:
\\ Amantadine
\\ Saquinavir
\\ Interferon alfa
\\ Pencyclovir
411. \\\ Tick the unwanted effects of zidovudine:
\\ Hallucinations, dizziness
\\ Anemia, neutropenia, nausea, insomnia
\\ Hypertension, vomiting
\\ Peripheral neuropathy
412. \\\ Tick the unwanted effects of intravenous acyclovir infusion:

- \ Renal insufficiency, tremors, delirium
- \ Rash, diarrhea, nausea
- \ Neuropathy, abdominal pain
- \ Anemia, neutropenia, nausea, insomnia

413. \ Tick the group of hormonal drugs used for cancer treatment:

- \ Mineralocorticoids and glucocorticoids
- \ Glucocorticoids and gonadal hormones
- \ Gonadal hormones and somatotropin
- \ Insulin

414. \ Tick the anticancer drug of plant origin:

- \ Dactinomycin
- \ Vincristine
- \ Methotrexate
- \ Procarbazine

415. \ Methotrexate is:

- \ A purine antagonist
- \ A folic acid antagonist
- \ An antibiotic
- \ An alkylating agent

416. \ Tick the antibiotic for cancer chemotherapy:

- \ Cytarabine
- \ Doxorubicin
- \ Gentamycin
- \ Etoposide

417. \ Tick the action mechanism of anticancer drugs belonging to plant alkaloids:

- \ Inhibition of DNA-dependent RNA synthesis
- \ Cross-linking of DNA
- \ Mitotic arrest at a metaphase
- \ Nonselective inhibition of aromatases

418. \ General contraindications for anticancer drugs are:

- \ Depression of bone marrow
- \ Acute infections
- \ Severe hepatic and/or renal insufficiency
- \ All of the above

419. \ Action mechanism of methotrexate is:

- \ Inhibition of dihydrofolate reductase
- \ Activation of cell differentiation
- \ Catabolic depletion of serum asparagine
- \ All of the above

420. \ Tick the anticancer drug belonging to inorganic metal complexes:

- \ Dacarbazine
- \ Cisplatin
- \ Methotrexate
- \ Vincristine

421. \ Tick the indication for estrogens in oncological practice:

- \ Leukemia
- \ Cancer of prostate
- \ Endometrial cancer
- \ Brain tumors

422. \ Tick the estrogen inhibitor:

- \ Leuprolide

- \ \ Tamoxifen
- \ \ Flutamide
- \ \ Anastrozole

423. \ \ \ An 82-year-old hospitalized patient with creatinine clearance of 25 mL/min has a microbial infection requiring treatment with antibiotics. Which one of the following drugs is least likely to require a dosage adjustment, either a smaller dose than usual or an increased interval between doses?

- \ \ Amphotericin B
- \ \ Erythromycin
- \ \ Imipenem-cilastatin
- \ \ Vancomycin

424. \ \ \ A 7-year-old child presents with pharyngitis and fever of 2 days duration, and microbiology reveals small, translucent beta-hemolytic colonies sensitive in vitro to bacitracin. Past history includes a severe allergic reaction to amoxicillin when used for an ear infection. You need to treat this infection, but you prefer not to use a drug that needs parenteral administration. Which one of the following agents is most likely to be appropriate in terms of both effectiveness and safety?

- \ \ Azithromycin
- \ \ Doxycycline
- \ \ Penicillin G
- \ \ Vancomycin

425. \ \ \ A female patient has pelvic inflammatory disease, and the decision is made to treat her with antibiotics as an outpatient. One of the drugs to be used is a cell-wall synthesis inhibitor with activity against anaerobic gram-negative rods, including *Bacteroides fragilis*. She is warned that unpleasant reactions may occur if she consumes alcoholic beverages while taking this drug. If you also know that the antibiotic may cause hypoprothrombinemia, you can identify it as

- \ \ doxycycline
- \ \ metronidazole
- \ \ ofloxacin
- \ \ cefotetan

426. \ \ \ The most likely drug to be effective in diseases caused by cestodes and trematodes is

- \ \ chloroquine
- \ \ mebendazole
- \ \ metronidazole
- \ \ praziquantel

427. \ \ \ Several antibiotics are effective in single doses and are drug of choice for the treatment of uncomplicated gonorrhea. Which one of the following drugs necessitates a 7-day course of treatment to be effective?

- \ \ Ceftriaxone
- \ \ Cefixime
- \ \ Doxycycline
- \ \ Ofloxacin

428. \ \ \ Despite its short elimination half-life, gentamicin may be administered once daily (at high dose) in the treatment of hospitalized patients with infections caused by aerobic gram-negative rods. Once-daily dosing regimens with gentamicin are likely to result in

- \ \ a decrease in cure rate
- \ \ a higher incidence of deafness
- \ \ the rapid emergence of resistance
- \ \ less nephrotoxicity

429. \ \ \ In the treatment of a urinary tract infection in a patient known to have a deficiency of glucose-6-phosphate dehydrogenase, it would not be advisable to prescribe

- \ \ ciprofloxacin
- \ \ amoxicillin
- \ \ cephalixin
- \ \ sulfamethoxazole

430. \\\ Which one of the following drugs is most likely to be equally effective in the treatment of amebic dysentery and "back-packer's diarrhea"?
- \\ Ciprofloxacin
 - \\ Diloxanide
 - \\ Metronidazole
 - \\ Trimethoprim-sulfamethoxazole
431. \\\ Which one of the following drugs is most suitable in an immunocompromised patient for prophylaxis against infection due to *Cryptococcus neoformans*?
- \\ Amphotericin B
 - \\ Ampicillin
 - \\ Fluconazole
 - \\ Nystatin
432. \\\ In community-acquired pneumonia, pathogens responsible for infection include pneumococci, gram-negative rods, and atypicals such as *M. pneumoniae* and *C. pneumoniae*. Which one of the following drugs used as monotherapy is most likely to be both effective and safe, if your patient is pregnant?
- \\ Amoxicillin
 - \\ Clarithromycin
 - \\ Ofloxacin
 - \\ Azithromycin
433. \\\ A mother is breast-feeding her 2-month-old infant. Which one of the following drug situations involving the mother is unlikely to cause effects in the nursing infant?
- \\ Ciprofloxacin for a UT infection
 - \\ Amphetamine for weight loss
 - \\ Nystatin for a yeast infection
 - \\ Triazolam as a "sleeping pill"
434. \\\ In a patient who has an established hypersensitivity to metronidazole, the most appropriate drug to use for the management of pseudomembranous colitis is
- \\ ampicillin
 - \\ clindamycin
 - \\ doxycycline
 - \\ vancomycin