Bio 370- Brain and Behavior Final Exam
May 10, 2004

1. Which of the following symptoms of schizophrenia is most likely to be responsive to pharmacological therapy?
   A. anhedonia
   B. poverty of thought content
   C. auditory hallucinations
   D. catatonia
   E. alogia

2. The loss of ability to perform a purposeful task, despite intact sensory and motor function is:
   A. aphasia
   B. ataxia
   C. apraxia
   D. agnosia
   E. amnesia

3. The reproduction of mild psychotic symptoms with the administration of PCP and ketamine support the role of which neurotransmitter in the pathogenesis of schizophrenia?
   A. acetylcholine
   B. dopamine
   C. GABA
   D. serotonin
   E. glutamate

4. Post-traumatic stress disorder differs from adjustment disorder in that:
   A. it persists long after the stress has abated
   B. it can be accompanied by depression
   C. impairment of social functioning occurs
   D. it is characterized by preoccupation with stress
   E. it's associated with a fear which is recognized as excessive or unreasonable

5. Common sign/symptoms of nicotine withdrawal include all of the following EXCEPT:
   A. decreased heart rate
   B. irritability, frustration and anger
   C. depressed mood
   D. anxiety
   E. decreased appetite and heavy sleeping
6. The dopaminergic model for schizophrenia states that psychosis, hallucinations, and delusions are likely secondary to
   A. increased mesocortical DA activity
   B. increased hippocampal DA activity
   C. decreased mesocortical DA activity
   D. increased mesolimbic DA activity ✓
   E. decreased mesolimbic DA activity

7. You are consulted on a patient who appears awake but seems incapable of responding to questions or following commands. Upon further examination, it becomes clear that she is aware of her environment but is having difficulty generating spontaneous actions. You decide that her disorder may be due to damage to the:
   A. motor cortex
   B. amygdale
   C. anterior cingulate gyrus ✓
   D. hippocampus
   E. septal nuclei

8. In frontal-subcortical circuits that mediate complex behaviors, projections from the frontal cortex to the basal ganglia then project to this structure before returning to the frontal cortex:
   A. hippocampus
   B. association cortex
   C. nucleus accumbens
   D. midbrain
   E. thalamus ✓

9. Alzheimer’s disease differs from frontal type dementia in all of the following ways EXCEPT:
   A. AD is characterized by generalized and hippocampal atrophy ✓
   B. Neuropsychological testing will often reveal frank amnesia in AD patients ✓
   C. There’s less atrophy in the frontal lobe early on in AD
   D. Behavioral and personality changes show up earlier in AD patients
   E. None of the above.

10. Injury to the basal ganglia would most likely impair:
    A. semantic memory
    B. short-term memory
    C. episodic memory
    D. procedural memory ✓
    E. all of the above

11. Glutamic acid decarboxylase (GAD) is necessary for:
    A. synthesis of glutamate
    B. synthesis of GABA ✓
C. synthesis of acetylcholine
D. synaptic degradation of GABA
E. limiting the toxic effects of certain drugs

12. Remembering what you ate for dinner last night involves:
   - A. episodic memory
   - B. declarative memory
   - C. procedural memory
   - A & B
   - E. A, B, & C

13. One of the similarities between barbiturates and alcohol is:
   - A. both markedly increase the activity of acetylcholine
   - B. both drugs facilitate the opening of a chloride channel
   - C. abuse of either drug usually results in seizures
   - D. the effects of both drugs can be blocked by atropine
   - E. none of the above

14. True or False: A lesion of the ventromedial hypothalamic nucleus can lead to hyperphagia and obesity.
   - A. True
   - B. False

15. Evidence that haloperidol (Haldol) blocks dopamine receptors would include all of the following EXCEPT:
   - A. Haloperidol increases blood prolactin levels
   - B. Haloperidol produces Parkinsonian motor symptoms
   - C. Haloperidol inhibits the binding of dopamine to dopamine receptors
   - D. Haloperidol increases adenylyl cyclase activity
   - E. Haloperidol inhibits amphetamine-induced motor activity

16. The finding that phencyclidine (PCP) can produce positive and negative symptoms similar to those seen in schizophrenia, suggests that one aspect of schizophrenia may involve:
   - A. An overactive serotonin system in the brain
   - B. An abnormal NMDA system in the brain
   - C. An overactive GABA system in the brain
   - D. An overactive norepinephrine system in the brain
   - E. An underactive acetylcholine system in the brain

17. Indicate which of the following statements concerning clozapine (Clozaril) is CORRECT:
   - A. Clozapine produces more tardive dyskinesia symptomology than does haloperidol
B. If a schizophrenic patient is not helped by haloperidol, the patient has a greater than 10% chance of being helped by clozapine. 

C. A possible side effect of clozapine is a lowering of the white blood cell count.

D. A and B

E. B and C

18. A compound that is used to produce an animal model of Parkinson's disease:
   A. Ropinirole (Requip)
   B. selegiline (Deprenyl)
   C. MPTP
   D. GDNF (glial cell line-derived neurotrophic factor)
   E. Carbipoda (a component of Sinemet)

19. Indicate which of the following statements concerning L-DOPA therapy for Parkinson's disease is CORRECT:
   A. It is a pro-drug (i.e., it must get converted to another compound in the body to be therapeutically effective)
   B. It can gain access to the brain from the peripheral blood supply
   C. It works best when co-administered with a dopa decarboxylase inhibitor that inhibits the decarboxylase activity in the brain
   D. A and B
   E. B and C

20. Indicate which of the following drug: mechanism of action matchups is CORRECT for treating Parkinson's disease:
   A. Bromocriptine (Parlodel): Direct dopamine receptor agonist
   B. Benztropine (Cogentin): MAO inhibitor
   C. Entacopone (Comtan): Muscarinic receptor antagonist
   D. A and B
   E. B and C

21. Indicate which of the following drug treatments for Alzheimer's disease is an NMDA receptor antagonist:
   A. Donepezil (Aricept)
   B. Rivastigmine (Exelon)
   C. Memantine (Namenda)
   D. A and B
   E. B and C

22. A dopamine containing pathway in the brain that has been implicated in the rewarding properties of stimulant drugs (e.g., amphetamine and cocaine) and opiates (e.g., heroin):
   A. Septum to substantia nigra
   B. Ventral tegmentum to nucleus accumbens
   C. Thalamus to striatum
   D. Raphe nuclei to hippocampus
23. Indicate which of the following statements concerning caffeine is CORRECT:
   A. At physiological concentrations, caffeine will block adenosine receptors in the brain
   B. Caffeine stimulates locomotor activity in rats
   C. The concept of caffeine withdrawal is a myth
   D. A and B
   E. A, B and C

24. Indicate which of the following psychoactive drug: drug property matchups is CORRECT:
   A. Ethanol: Inhibition of antidiuretic hormone secretion
   B. Nicotine: Transmitted in the milk of nursing mothers who smoke
   C. Marijuana (THC): Direct agonist of G-protein coupled receptors in the brain
   D. A and B
   E. A, B and C

25. A 73 year-old man suffers a stroke. Neuropsychological evaluation in the period following the stroke finds several deficits, including poor organization of learning and recall as shown by a copy/free recall test and impersistence in an alternating figures task.

26. Which of the following would most likely be expected in a patient with these deficits?
   A. Socially inappropriate behavior
   B. Deficits in contralateral fine motor control
   C. Complex attentional deficits and delayed habituation to external stimuli
   D. Perseveration and difficulty generating multiple response alternatives
   E. Difficulties in initiating voluntary eye movements

27. If it had been determined that the locus of this man’s stroke was in a subcortical region of the brain, which of the following is true?
   A. The size of this lesion should be smaller than if it had been found in the cortex
   B. The lesion is most likely to be localized to the striatum
   C. The lesion must have interrupted the connection between the caudate and globus pallidus
   D. Neural activity in the thalamus would be unaffected by this lesion
   E. A large portion of subcortical tissue is likely to have been affected by the stroke

28. A 24 year-old medical student fails the USMLE Step 1. He drops out of medical school. Ten years later, he presents to the Rhode Island Hospital emergency department, where an old classmate-turned ER physician performs a history and physical exam on the patient. During the exam, the physician notes alcohol on the patient’s breath and substantial amnesia. After getting in touch with the patient’s family, it is learned that he has a history of heavy chronic drinking lasting over the course of the past decade. All of the following are likely to be present in the patient EXCEPT:
   A. Vitamin deficiency
28-29. A 66 year-old patient recovering from a stroke is referred to a physician following the onset of disturbing new behavior. On two occasions the patient has been observed attempting to unbutton the clothes of people standing next to her on the supermarket checkout line. The patient claims to have no conscious control over the movements and actions of her hand.

28. The region of the brain exhibiting dysfunction in this patient is normally responsible for which of the following actions?
   A. Coordination of voluntary movement
   B. Generation of appropriate response alternatives
   C. Working memory for feature information
   D. Organization of learning and recall
   E. Drive and motivation

29. All of the following deficits might also be expected in a patient with dysfunction in this brain region EXCEPT:
   A. Apathy
   B. Complex attentional deficits
   C. Delayed habituation to external stimuli
   D. Deficits in voluntary eye movement
   E. Akinetic mutism

30. A 55 year-old alcoholic undergoes neuropsychological evaluation after complaining of persistent deficits following prolonged treatment of a brain abscess in his left frontal lobe. All of the following are possible deficits that could be found in a frontal patient EXCEPT:
   A. Magnetic gait
   B. Right homonymous hemianopia
   C. Gegenhalten (increased resistance throughout flexion and extension)
   D. Release signs such as the grasp reflex
   E. Perseverance on feature working memory tasks

31-32. For the past 3 months, a 38 year old nurse has had a recurrent anxiety-provoking fear of being contaminated by germs and getting sick while at work. She washes her hands constantly and repeatedly cleans all the doorknobs on the hospital floor where she works. While she is doing these things, her anxiety temporarily abates. A formal psychiatric evaluation results in the diagnosis of obsessive compulsive disorder. The woman's past medical history was negative for prior episodes of similar behaviors.

31. Which one of the following statements are true?
   A. Her age at onset is common for most individuals with this disorder
   B. Her gender suggests a poor prognosis
Individuals with this disorder are likely to have been diagnosed by age 25. D. There is a bimodal pattern of illness onset, occurring first in early childhood and then in late middle age. E. She is also likely to suffer from obsessive compulsive personality disorder.

32. Therapy for this patient might include all the following EXCEPT:
   A. Behavioral strategies focusing on gradual desensitization techniques
   B. Pharmacologic treatment with anti-cholinergic agents
   C. Surgical treatments such as anterior cingulotomy
   D. Selective serotonin uptake inhibitors
   E. Benzodiazepines

33-36. N.P. is a 49 year old female who smokes 1.5 packs of cigarettes/day. On waking in the morning she sometimes displays irritable and agitated behavior. Shortly after smoking her first cigarette of the day, however, N.P. becomes more calm and relaxed.

33. Her irritable behavior before that first cigarette may best be accounted for by which of the following?
   A. Hyperexcitable nicotinic receptors in the mesolimbic cortex
   B. Decreased drive for dopamine release in the nucleus accumbens
   C. Downregulation of nicotinic receptors in the mesolimbic cortex
   D. Increased dopamine release in mesocortical regions
   E. The stress of getting up late for work plus downregulated nicotine receptors

34. All of the following are expected effects of nicotine on N.P. following cigarette inhalation EXCEPT:
   A. Increased heart rate
   B. Increased blood pressure
   C. Skeletal muscle contraction
   D. Vasoconstriction
   E. Lipolysis

35. Upon the advice of her physician, N.P. decides that it is time to try to quit smoking. The best treatment to decrease symptoms of nicotine withdrawal would be:
   A. Fluoxetine (Prozac)
   B. Bupropion (Zyban)
   C. Nicotine suppositories
   D. Clonidine (Catapres)
   E. Nicotine patch

36. The best treatment to reduce nicotine craving would be:
   A. Fluoxetine (Prozac)
   B. Bupropion (Zyban)
   C. Buspirone (Buspar)
   D. Clonidine (Catapres)
   E. Nicotine patch
37. A seventh grader in the Wheeler School sneaks around the corner every day to puff on a cigarette. A street person with a cocaine addiction is compelled to use every dollar he earns selling stolen car stereos to buy crack. The brain region most likely to be mediating the reinforcing effects of these drugs is part of which neural structure?

A. Nucleus accumbens  
B. Hippocampal formation  
C. Diencephalon  
D. Midbrain tectum  
E. Frontal neocortex

38. A patient presents to their physician complaining of hyperphagia and substantial weight gain over the past year. Physical exam shows bilateral papilledema and MRI reveals a possible tumor in the region of the third ventricle. The function of which of the following hypothalamic nuclei is likely to have been impaired by this tumor?

A. Arcuate nucleus  
B. Lateral nucleus  
C. Supraoptic nucleus  
D. Ventromedial nucleus  
E. Mammillary bodies

39. Leptin is a protein believed to have significant effects on feeding behavior and maintenance of body weight. Which statement best describes leptin mechanism of action?

a. Its major hypothalamic target is the lateral nucleus of the hypothalamus  
b. It modulates MSH secretion in the promotion of increased feeding behavior  
c. Mutations in the OB gene result in fat mice and increased leptin levels  
d. Increased circulating leptin levels are found in individuals with decreased body weight  
e. It inhibits feeding stimulation by neuropeptide Y in the lateral nucleus

40. A number of factors have been implicated in the short-term regulation of feeding behavior. All of the following factors are thought to be possible contributors EXCEPT:

a. Blood glucose concentration  
b. Dilation of the esophagus or stomach  
c. Circulating leptin levels  
d. Taste and smell  
e. Release of CCK by the pancreas

41. Many of the substances thought to be involved in the regulation of feeding behavior have other functional capabilities as well. All of the following are correct pairings between substance and function EXCEPT:

a. Orexin: regulate arousal and sleep  
b. Leptin: modulate developmental and reproductive processes  
c. CCK: stimulate gall bladder contraction  
d. Insulin: increase uptake of glucose into cells  
e. Neuropeptide Y: modulate gastric distention
42-43. A 45 year old man arrives at the RIH emergency department late one evening after being found lying on the side of the road. Initially you are not able to elicit much of a history other that the man does not have a home. The man’s speech is slurred and difficult to comprehend, and you note the smell of alcohol on his breath. In the ER his routine laboratories are normal but his blood alcohol level is elevated.

42. What is your next step in the management of this patient?
   a. Initiate intravenous administration of thiamine, multivitamins, and fluids with dextrose
   b. Monitor non-pharmacologically, as most alcohol withdrawals are uncomplicated
   c. Begin immediate chlordiazepoxide (Librium) treatment to prevent withdrawal and delirium tremens
   d. Administer the CAGE questionnaire to obtain a better idea of whether the patient has a drinking problem
   e. Start disulfiram (Antabuse) to prevent further drinking

43. 4 hours later the patient has become coherent enough to tell you that much earlier in the evening he drank a handle (1.5 L) of Jim Beam. Shortly after this you notice that the patient is exhibiting what you believe to be signs of early alcohol withdrawal. All of the following are common features of early withdrawal in alcoholics EXCEPT:
   a. Flushed face
   b. Grand mal seizures
   c. Mildly abnormal orientation
   d. Insomnia
   e. Hypotension

44-45. A 21 year-old Brown undergraduate (and member of the Delta House Fraternity) is evaluated by his primary care physician after several family members and close friends express concern that his drinking has become a problem. Up to recently the young man has been hesitant to admit that he drinks excessively, claiming “There are guys in my frat that can drink me under the table, and nobody accuses THEM of having a problem!” However, several recent attempts to cut on his alcohol intake have proven futile, ultimately prompting a self-re-evaluation of his behavior. A careful history reveals that the man must drink several more beers now than when he first arrived at college to achieve the same subjective level of intoxication. Additionally, over the past year there have been many weekend mornings that a “wicked hangover” would force him to cancel plans he had for that day. His grades have not suffered from his drinking habits, however, and he denies ever consuming alcohol while driving.

44. According to DSM IV criteria, this individual’s behavior is most consistent with which of the following diagnoses?
   a. Substance Withdrawal
   b. Substance Dependence
   c. Bipolar Disorder Type I
d. Fraternity President  
  e. Substance Addiction

45. In 20 years, what percentage of college problem drinkers such as this man will be dependent on alcohol?
  a. 5%
  b. 10%
  c. 30%
  d. 50%
  e. 75%

46-49. A 47 year old woman is seen by you, her new primary care physician, for the first time. After obtaining the patient’s height and weight, you calculate a BMI (Body Mass Index) of 33.

46. Before the patient says another word, you already know that she is at heightened risk for several medical conditions. All of the following are disorders associated with obesity EXCEPT:
  a. Hypertension ✓
  b. Type 1 Diabetes ✓
  c. Increased blood cholesterol ✓
  d. Osteoarthritis ✓
  e. Sleep apnea ✓

47. Assessment of abdominal fat is another technique that may used in measuring the degree of this patient’s obesity. Which of the following is the most recommended marker of abdominal fat content?
  a. Waist circumference ✓
  b. Waist-to-hip ratio ✓
  c. MRI scan ✓
  d. CT scan ✓
  e. Fat/muscle ratio ✓

48. All of the following would be recommended weight loss strategies for an individual with this BMI EXCEPT:
  a. Joining a gym and exercising consistently ✓
  b. Gastric bypass surgery ✓
  c. Behavioral therapy based on reinforcement ✓
  d. Adjunctive pharmacotherapy to complement lifestyle modifications ✓
  e. Reducing Filet-o-Fish intake from 2 to 1 per McDonald’s visit ✓

49. The patient returns in 6 months and her BMI is now 30.4. All of the following would be expected changes in her lab profile EXCEPT:
  a. Decreased blood sugar ✓
  b. Decreased blood pressure ✓
50-52. The patient is a 29 year old woman brought in by rescue to the emergency department. When asked why she is here, she says “I am the devil.” She explains that she realized that she was the incarnation of evil after having an affair with a married man who recently ended the relationship. Since then she says that she has felt “dirty” and “evil” and eventually came to the conclusion that she is the “Prince of Darkness.” She denies that this has ever happened before, and answers most questions saying simply “I am the devil.” She denies ever having been to a psychiatrist before, but on medical records reveal that she has had two prior hospitalizations: one when she was 26 and one when she was 18. She worked for a time as a secretary, but hasn’t worked in over five years. She lives alone and has no family in the area. When hospitalized, the patient is frequently noted to be very “depressed” and “panicky”, these symptoms reportedly dissipate with treatment of her acute syndrome. The chart reports that her father was institutionalized many years ago, but the details of this are not known.

50. The patient’s belief that she is the devil is most typical of a
A. Hallucination
B. Delusion
C. Obsession
D. Repression
E. Compulsion.

51. Which of the following diagnoses is most consistent with the patient’s history and symptoms?
A. Schizophrenia
B. Bipolar Disorder
C. Major Depression
D. Panic Disorder
E. Obsessive Compulsive Disorder

52. Which of the following medications would be most efficacious in treating this patient?
A. Lorazepam (Ativan)
B. Risperidone (Risperdal)
C. Fluoxetine (Prozac)
D. Sodium Valproate (Depakote)
E. Methylphenidate (Ritalin)

53-55. A 42 year old man lost his job 3 months ago, and became increasingly despondent over this. He is eventually brought to the doctor by his wife, who reports that since losing his job, he stays mainly in bed, doing little. He has lost 20 pounds, and eats little during the day. Though frequently complaining of fatigue, he often cannot sleep at night. On examination, the patient is alert and awake, but maintains a seated posture, moving little during the exam. There is no eye contact. Physical and neurological examination are otherwise normal. He denies ever having felt this way before, and his wife agrees that he is usually a very active “go-getter.” When asked
why he does not leave his room, he reports that he is an “utter failure” and that his wife is probably better off without him.

53. Which diagnosis is most consistent with the patient’s presentation?
   A. Major depression
   B. Bipolar Disorder
   C. Dysthymic Disorder
   D. Generalized Anxiety Disorder
   E. Schizoaffective Disorder

54. Which of the following medications would be most efficacious in treating this patient?
   A. Lorazepam (Ativan)
   B. Sodium Valproate (Depakote)
   C. Lithium Carbonate (Lithium)
   D. Fluoxetine (Prozac)
   E. Methyphenidate (Ritalin)

55. Which would be the most important next step in evaluating this patient?
   A. Arranging appropriate outpatient treatment.
   B. Performing a Head CT.
   C. Recommending neuropsychological testing.
   D. Evaluating the patient’s suicide potential.
   E. Obtaining a 24 hour sleep study.

56-59. The patient is a 40 year old man with a history of major depression. He is brought into the emergency department after getting up at a concert and trying to lead the orchestra. When approached by ushers, he attacked them, police were called, and he was taken to the hospital. In talking with him, he explains that he is “the world’s greatest musician” who, though having no formal training or ability, has “perfect clarity in understanding the music.” He complained that the conductor was “getting it wrong” and he was just trying to help. He says that he realized this about a week prior, and since then has been so happy that he stays up all day and night thinking of the great symphonies he can write. On examination the patient speaks rapidly and animatedly, and is difficult to interrupt. Initially laughing and pleasant, he become more belligerent when told he cannot yet leave the hospital.

56. This behavior is most consistent with which syndrome?
   A. A manic episode
   B. A depressive episode
   C. A hypomanic episode
   D. A neurotic episode
   E. A psychopathic episode

57. Which of the following DSM-IV diagnoses is most consistent with the patient’s symptoms and history?
   A. Bipolar disorder
B. Schizoaffective disorder
C. Major depression
D. Panic disorder
E. Mania

58. Before making this diagnosis, which of the following is most important to rule out?
   A. Drug intoxication
   B. A frontal meningioma
   C. An adrenal adenocarcinoma
   D. Hypothyroidism
   E. Malingering

59. Which of the following medications would be most efficacious in treating this disorder (if the disorders in the immediately preceding question are ruled out)?
   A. Lithium Carbonate (Lithium)
   B. Haloperidol (Haldol)
   C. Fluoxetine (Prozac)
   D. Gabapentin (Neurontin)

60-62. A 45 year old man with no previous medical or psychiatric history comes into the emergency department complaining of feeling he is having a heart attack. He reports he feels his heart racing, and feels he is having palpitations. He is short of breath and feels like he is going to faint. He takes no medications, and denies recent alcohol or illicit drug use.
Examination reveals a healthy appearing male, who is pale and diaphoretic, with a rapid (100 beats per minute) but regular pulse. Electrocardiogram shows sinus tachycardia with no other abnormalities. The patient reports he has had 3 similar episodes in the past year. One occurred while he was sleeping. He denies any significant stress, or other situation that might bring on these attacks. 2 prior episodes resulted in similar ER visits, in each case no abnormality was found and the patient was released without specific treatment.

60. Which of the following is the most likely diagnosis?
   A. Myocardial infarction
   B. Asthma
   C. Generalized anxiety disorder
   D. Panic disorder
   E. Hypochondriasis

61. Which of the following would be the most effective at immediate relieving this patient's symptoms?
   A. Fluoxetine (Prozac)
   B. Lorazepam (Ativan)
   C. Olanzapine (Zyprexa)
   D. Lactic Acid
   E. Methylphenidate (Ritalin)
62. Which of the following would be the most effective at preventing future episodes?
   A. Fluoxetine (Prozac)
   B. Lorazepam (Ativan)
   C. Olanzapine (Zyprexa)
   D. Lactic Acid
   E. Methylphenidate (Ritalin)

63-64. A 72 year old woman is brought by rescue to the emergency department after being in a motor vehicle accident. The patient had been driving, and went though a red light, side-swiping another car. The patient explains that she was driving to her home, but had gotten lost on the way and became frightened.
On examination, the patient is very nervous and appears frightened and embarrassed, frequently saying that she is “fine” and just wants to go home. She is aware that she is in a hospital, but cannot identify the name of the hospital. When told, she laughs and says “oh yes, how could I forget—I had all my children here.” She can repeat 3 words immediately, but then cannot recall them after 5 minutes. After being given the words again, she repeats them again, but 10 minutes later she cannot recall them, or even recall that she was asked to repeat any words. When shown a wristwatch, she says it is a “clock”, and she calls a tie a “scarf.” She explains again that she is very nervous after her accident and can’t really concentrate on the questions.
The doctors call the patient’s daughter, who reports that she has been concerned about her mother. The patient’s symptoms are most consistent with which disorder?
   A. Major depression
   B. Pathological grief
   C. Dementia
   D. Psychogenic amnesia
   E. Generalized anxiety

64. Which medication would be most beneficial?
   A. Olanzapine (Zyprexa)
   B. Fluoxetine (Prozac)
   C. Lorazepam (Ativan)
   D. Donepezil (Aricept)
   E. Diphenhydramine (Benadryl)

65-67. A 55 year old man is brought to the emergency department after a motor vehicle accident. Though the patient admits to drinking before the accident, he says that he one had “one or two beers all night.” Blood alcohol level is 2.1 (suggested very heavy drinking). The patient is a little tremulous, but otherwise does not seem uncoordinated, has a normal gait, and is clear and
coherent without significant cognitive deficit on examination. Family history is significant for a strong history of alcohol use on the paternal side, including a father who was an alcoholic and heroin addict, who spent several years in jail for armed robbery. The patient denies any drug use, and admits to only moderate drinking. Medical history is significant for a history of peptic ulcer disease, and the patient takes Tagamet daily. His psychiatric history is significant for a history of "panic attacks". The patient reports that he usually has these attacks in the morning, during which he is anxious and sweaty, and "I shake like a leaf." The lorazepam usually helps this, but when he runs out, he will occasionally drink some wine, which he says also helps. The patient's wife is called, who reports that she has asked her husband about alcohol use, but he firmly denies such use. She has stopped asking recently, even when he smells of alcohol, as he will become very argumentative towards her.

65. Which of the following is the patient's most likely diagnosis?
   A. Panic Disorder
   B. Generalized Anxiety
   C. Major Depression
   D. Alcohol Dependence
   E. Heavy Social Drinking Syndrome.

66. Which of the following is the most important initial treatment intervention.
   A. Convincing the patient to go to Alcoholics Anonymous
   B. Convincing the patient to take naltrexone (Narcan)
   C. Convincing the patient to take disulfiram (Antabuse)
   D. Convincing the patient to only use lorazepam (Ativan), not alcohol, for his anxiety
   E. Convincing the patient to start bupropion (Zyban)

67. What is this patient's prognosis for recovery?
   A. Average
   B. Excellent
   C. Poor

68-71. Match the personality disorder:
   A. Schizoid
   B. Obsessive compulsive
   C. Schizotypal
   D. Borderline
   E. Narcissistic

68. A 44 year old woman is brought to the hospital after attempting suicide by slitting her wrists. She says that she feels her life has ended now that "the only man who ever meant anything to me" has left her. She is admitted, and several days later it is noticed that she now refers to her ex-boyfriend as a "jerk" and has begun to develop a relationship with a fellow patient, saying that this person is her "soul mate."
69. A 22-year-old man is in the hospital after an appendectomy. When told he is to be discharged soon, he worries as he lives alone and has no support. He at first says he is always "lonely" and wishes he had a girlfriend, but also admits that he finds a lot of people annoying. He says that rather than meet people, he usually prefers to play computer games in his apartment.

70. A 52-year-old man starts yelling at the nurses after they are late in bringing him his medication. He exclaims "don't you know who I am?", saying that he is close to most of the hospital board, and he'll call his friend, commissioner of health, if he feels he is being mistreated. Though frequently dropping such names, it is noted that the patient is rather disheveled, has no visitors, and appears to be homeless.

71. A 48-year-old woman demands to be discharged from the hospital after a nurse is late bringing her medication. She complains that the nursing staff is incompetent, and to prove it present the doctor with a list that she has been keeping of their numerous errors. In looking at the list, the doctor is impressed by the inordinate precision of the list. An example: 8:45 the nurse walked in saying that I had an X-ray scheduled. In fact, the X-ray was scheduled until 9:00 and wasn't actually performed until 9:16, thus the nurse wasted over 31 minutes of my time.

72. Which of the following can only be diagnosed in children?
   - A. Dementia ×
   - B. Schizophrenia ×
   - C. Major Depression ×
   - D. Adjustment Disorder ×
   - E. Conduct Disorder

73. A mother brings her 13-year-old child in to see her pediatrician. She complains that ever since her divorce, her son has been "acting out". He is refusing to go to school, stays home, and usually stays in his room. His grades, which were previously very good, are now failing. She does not believe that he is using any drugs or alcohol. She says that he does not appear sad or depressed, and instead describes him as "always irritable and angry". Physical examination is normal, and a drug screen shows no illicit substances. What is the most likely diagnosis?
   - A. Conduct Disorder ×
   - B. Antisocial Disorder ×
   - C. Major Depression
   - D. Bipolar Disorder ×
   - E. Substance Dependence ×

74. An 8-year-old girl with a history of asthma is brought in by her parents. They believe that, though the child does have asthma, that recently she has begun "faking asthma" in order to get their attention. Specifically, they report that every time they argue, the child has an asthma attack. They report that, though the child is not aware of this, the mother recently discovered that her husband is having an affair, and they have argued frequently.
and are contemplating divorce. On interview with the child, she reports that she is afraid that her parents will separate.

In discussing this matter with the parents, what is the best interpretation that the pediatrician can offer?

A. The child is likely mimicking attacks in order to try and stop her parent’s arguments.  
B. The child is having a psychophysiological asthma attack brought on by stress.  
C. The child’s asthma is likely worsening and unrelated to present events.  
D. The child likely has a pneumonia which is worsening her attacks.

75. A patient is treated for major depression. This is her second episode in her adult life. She is started on fluoxetine. After 1 month, she reports that she is completely cured from the depression, and asks whether she can be taken off the medication.

The physician should advise:

A. The patient can be slowly taken off medication over the next month  
B. The patient should stay on medication for at least another 5 months.  
C. The patient should not be taken off medication at any time.  
D. The patient should have her medication dose increased.

76. A patient presents with panic attacks. She feels that every time she is at work, she begins to feel overwhelmed. She is a secretary at a large law firm, and says that any time she is given a task, her first thought is that “I am just a screw up” and that she will likely not be able to do the task properly. Usually she performs well, and cannot understand why she is so negative.

Which is the most appropriate psychotherapy for the above situation?

A. Psychoanalysis  
B. Interpersonal psychotherapy  
C. Supportive Therapy  
D. Cognitive-Behavioral Therapy  
E. Flooding

77-79. A 62 year old developed an abrupt neurological decline and had the following scan

77. What type of scan is this?

A. CT  
B. MRI
78. What area of the brain is most affected?
   A. Right temporal
   B. Left temporal
   C. Right occipital
   D. Left frontal
   E. Left parietal

79. What is the most likely neurological deficit?
   A. Right homonymous hemianopia
   B. Wernicke’s aphasia (decreased comprehension)
   C. Parkinsonism
   D. Broca’s aphasia (decreased expression)
   E. Decreased motivation

80-81. A 65 year old right-handed man has an abrupt neurological decline and has the following scan.

80. Where is the lesion located?
   A. Hippocampus
   B. Amygdala
   C. Cingulate gyrus
   D. Pons
   E. Thalamus

81. What is the most likely deficit?
   A. Verbal memory
   B. Parkinsonism
   C. Aphasia
   D. Non-verbal memory
   E. Ataxia
82. A 70 year old man has a gradual decline in memory, balance, and bladder control and has the following MRI scan

What is the most likely diagnosis?
A. Alzheimer’s Disease ✓
B. Parkinson’s Disease ×
C. Normal pressure hydrocephalus ✓
D. Frontotemporal dementia ×
E. Vascular dementia ×

83. According to DSM IV which of the following criteria are not required for the diagnosis of Anorexia Nervosa?
A. Refusal to maintain body weight at or above a minimally normal weight for age, (< 85%) ✓
B. Intense fear of gaining weight or becoming fat ✓
C. Undue influence of body weight or shape on self-evaluation or denial of seriousness of low weight ✓
D. Amenorrhea of at least 3 cycles ✓
E. They are all required ×
Test: Brain and Behavior Final 2004
Grade:
Score: 92.77% (77.00 of 83.00)

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