

ANCC Domain 1: Scientific Foundation (40 questions with rationales)

As a PMHNP, you are aware of antipsychotic medication side effects. Which of the following side effects of antipsychotic medications has an insidious, delayed-onset typically 1 to 2 years after initiation of the medication?

- a. Dry mouth
- b. Tardive dyskinesia**
- c. Sedation
- d. Weight gain - B

In evaluating a 4-year-old, one would expect which of the following delays in Asperger's Disorder?

- a. Language development
- b. Cognitive development
- c. Motor skills coordination
- d. Social skills development** - D

Which area of the brain has been implicated to modulate pain and can help explain how transcranial magnetic stimulation can help decrease pain?

- a. Prefrontal cortex**
- b. Insula cortex
- c. Dorsolateral prefrontal cortex
- d. Anterior cingulate cortex - A

learnexams

Which of the following antidepressants is associated with dose-related cardiovascular adverse effects which require adherence to maximum recommended dosing, unless higher doses are deemed appropriate despite risks?

- a. Citalopram (Celexa)**
- b. Venlafaxine (Effexor)
- c. Mirtazapine (Remeron)
- d. Sertraline (Zoloft) - A

Which of the following findings would raise concern in an annual sports exam for a 15-year-old girl?

- a. Scar tissue from hymenal tear at 11 o'clock (reported biking injury)
- b. Blood pressure 86/56
- c. Height 67 inches, weight 102 pounds**
- d. Pulse 60, respirations 26 - C

A week after raising the dose of risperidone (Risperdal), a patient treated for schizophrenia presents to the clinic with reports of an acute change in mental status, fever, and rigidity. As the treating PMHNP, you know these symptoms are consistent with which of the following?

a. Neuroleptic malignant syndrome (NMS)

b. Anticholinergic withdrawal syndrome

c. Extrapyrimalidal side effects

d. Serotonin syndrome - A

Which of the following statements regarding disulfiram (Antabuse) is correct?

a. Disulfiram should not be taken for at least 6 hours after drinking alcohol.

b. Avoid anything containing alcohol (i.e., vinegar, mouthwash, aftershave, cough medication) while using disulfiram and for 2 weeks after discontinuing.

c. A disulfiram-alcohol reaction can occur up to 1 week after discontinuing disulfiram.

d. Disulfiram can lower liver function tests so monitoring is necessary. - B

Which mood stabilizer is most associated with a potentially life-threatening rash?

a. Divalproex (Depakote)

b. Lamotrigine (Lamictal)

c. Lithium (Eskalith)

d. Carbamazepine (Tegretol) - B

Which of the following statements most accurately reflects the predominant risk factors of antisocial personality disorders?

a. Gang affiliation and early substance abuse

b. Genetic predisposition of first-degree family member

c. Childhood abuse and trauma from domestic violence

d. Lower socioeconomic status from single-parent families - B

A 37-year-old patient with schizophrenia is started on a high dose of chlorpromazine (Thorazine). The next day, he complains of lightheadedness after standing up. Vital sign changes reflect a significant decrease in blood pressure and an increase in heart rate. You suspect this is secondary to the alpha 1-adrenergic blockade which is causing

a. Orthostatic hypotension

b. Dry mouth

- c. Respiratory depression
- d. Decreased sweating - A

A 74-year-old female presents for an evaluation. The psychiatric nurse practitioner has the patient complete the mini mental status examination and clock drawing. The patient is unable to correctly draw the face of the clock. Which area of the brain is likely to have a compromised functioning?

- a. Wernicke's Area
- b. Corpus Callosum
- c. Left Hemisphere
- d. Right hemisphere - D

Your patient comes into the office for her middle of the year appointment. She is diagnosed with Bipolar I disorder. She has been maintained well for the past 3 years on Oxcarbazepine (Trileptal) 900 mg po QHS. Her labs are normal except for a blood sugar of 114 and her hemoglobin A1C is 5.6. She has a normal energy level and states that her mood is stable but complains of excessive urination and thirst. You suspect:

- a. Possible Diabetes 2
- b. Possible hyponatremia
- c. Possible polydipsia
- d. Side effects of oxcarbazepine - D

learnexams

What is a rare but serious side effect of trazodone (Desyrel)?

- a. Confusion
- b. Priapism
- c. Rash
- d. Tremor - B

When studying pharmacodynamics involving receptors, you know that an inverse agonist produces the following effect:

- a. Does not fully activate the receptor and causes only limited actions
- b. Causes the opposite effect of agonist, and causes the receptor to close the ion channel
- c. Blocks the agonist from opening the channel, and does not activate a biological response
- d. Activates a biological response, and opens the ion channel. - B

Mr. Smith is a 56-year-old white male who has been successfully treated on Selegiline for over 4 years. Mr. Smith is going in for an elective surgical procedure. Which medication is strictly contraindicated with Selegiline?

- a. Non-steroidal anti-inflammatory drugs (NSAIDs)
- b. Meperidine**
- c. Codeine
- d. Morphine - B

Patty is a 62-year-old white female with Bipolar I Disorder and has been stable for 2 years on valproate and risperidone. She was recently diagnosed with shingles, and her primary care nurse practitioner started her on corticosteroids. As the PMHNP treating Patty, you are concerned that the addition of the corticosteroids may cause

- a. Neuroleptic Malignant Syndrome
- b. A hypertensive crisis
- c. A manic episode**
- d. Stevens-Johnson syndrome - C

Which serotonin receptor antagonism makes an antipsychotic "atypical"?

- a. 5HT₄A
- b. 5HT₁A
- c. 5HT₃A
- d. 5HT₂A** - D

learnexams

What direct-acting dopamine receptor agonist is recommended to be used in the treatment of neuroleptic malignant syndrome (NMS) to help lower the dopamine receptor blockade?

- a. Benztropine (Cogentin)
- b. Bromocriptine (Parlodel)**
- c. Trihexyphenidyl (Artane)
- d. Dantrolene (Dantrium) - B

A 17-year-old female presents to your clinic reporting anhedonia, decreased energy, and hopelessness for the past two years. She denies drinking alcohol, smoking, or using illegal substances. Her physical examination results are within normal limits and she denies suicidal ideations. As the treating psychiatric mental health nurse practitioner, you decide to prescribe her bupropion (Wellbutrin). Of the following, which is contraindication for the use of bupropion?

- a. Bulimia
- b. Dysthymia
- c. Smoking
- d. Fatigue - A

Which of the following statements reflects current understanding of neurodevelopment and best explains risk-taking behaviors of adolescent males?

- a. Hormonal flooding, especially testosterone and oxytocin, increase dopamine levels in the brain
- b. Maturation of the prefrontal cortex continues into mid-20s and early 30s
- c. Pruning of serotonin circuits in the adolescent brain is associated with increased impulsivity
- d. Stimulant and substance use impairs judgment and cognitive appraisal. - B

Which of the following statements does not reflect current understanding of neurotransmitter pathways implicated in anxiety disorders?

- a. Decreasing norepinephrine in the locus coeruleus diminishes symptoms of anxiety.
- b. Increased levels of CRF in the amygdala, hippocampus and locus coeruleus increases symptoms of anxiety.
- c. Decreasing GABA in the mesolimbic cortex diminishes symptoms of anxiety.
- d. Increasing serotonergic activity in the amygdala diminishes symptoms of anxiety. - C

Which of the following findings on MRI and PET scans would be uncommon in individuals with schizophrenia?

- a. Decreased glutamate and GABA release
- b. Decreased total brain volume
- c. Decreased electrical activity in the frontal lobes
- d. Decreased size of cerebral ventricles - D

Which of the following findings would raise concern in a pre-school wellness exam for a 5-year-old girl?

- a. Blood pressure 92/52
- b. Pulse 102, respirations 30
- c. Completed immunizations: MMR, Varicella, DTap, IPV, PCV, Hib, HepB
- d. Height 43 inches, weight 55 lbs - D

The PMHNP would expect to see which of the following during a physical exam for a patient with bulimia nervosa?

- a. Obesity
- b. Tachycardia
- c. Alopecia areata
- d. Erosion of dental enamel - D

1. While treating a 12-year-old boy for ADHD, the PMHNP observes which of the following physical features that raise concerns for genetic evaluation for Fragile X syndrome?

- a. Small head, short palpebral fissure, inner epicanthal folds
- b. Café au lait spots on face and arms, neurofibromas
- c. Long head and ears, short stature, hyperextensible joints
- d. Obesity, small stature, small hands and feet, hypotonia - C

You are on call for your service. You arrive at the emergency department to find a 22-year-old male patient complaining of having trouble with his eyes. His vitals are stable. He is 5 foot and 7 inches tall; his weight is 140 pounds; his labs are all in the normal range. He states that he has been taking Aripiprazole (Abilify) for the last 2 months for his Bipolar 1 disorder. He had the dose raised to 15 mg po QAM 4 days ago to manage a manic episode. He states that one to three times a day for the past 2 days his eyes will roll upwards for 10 to 15 minutes and he will have trouble seeing until they roll back down. When you examine his eyes, he is able to fully open his eyes but he is not able to focus his eyes on you. His eyes are rolled upwards about 2/3rds of the way towards his upper eyelid. After examination you decide to:

- a. Discontinue the Aripiprazole and begin the patient on a gradually increasing regimen of Lamotrigine 25 mg 1 po QHS for 1 week. Have him return to his provider for further management of his bipolar disorder.
- b. Continue the Aripiprazole and give Benztropine Mesylate (Cogentin) 1 mg IM. Have him take Benztropine Mesylate (Cogentin) 1 mg po BID. Have him return to his provider for further management of his bipolar disorder the next day.
- c. Begin a cross titration downward of the Aripiprazole and upwards of Haloperidol (Haldol). Have him return to his provider for further management of his bipolar disorder.
- d. Discontinue the Aripiprazole and give Benztropine Mesylate (Cogentin) 1 mg IM. Have him take Benztropine Mesylate 1 mg po BID for 5 days. Have him