

# **NR 508 FINAL EXAM ||graded A**

written by

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## **NR 508 Final Exam**

### **Question 1**

**2 / 2 pts**

A patient who has diabetes reports intense discomfort when needing to void. A urinalysis is normal. To treat this, the primary care NP should consider prescribing:



flavoxate (Urispas).



bethanechol (Urecholine).



phenazopyridine (Pyridium).



**oxybutynin chloride (Ditropan XL).**

This patient is describing urge incontinence, or overactive bladder, which occurs when the detrusor muscle is hyperactive, causing an intense urge to void before the bladder is full. Urge incontinence is associated with many conditions, including diabetes. Oxybutynin chloride, which is an anticholinergic, acts to decrease detrusor overactivity and is indicated for treatment of urge incontinence. Flavoxate is used to treat dysuria associated with UTI. Bethanechol is indicated for urinary retention. Phenazopyridine is used to treat dysuria.

### **Question 2**

**2 / 2 pts**

A patient reports difficulty returning to sleep after getting up to go to the bathroom every night. A physical examination and a sleep hygiene history are noncontributory. The primary care NP should prescribe:



zaleplon.



**ZolpiMist.**



ramelteon.



chloral hydrate.

ZolpiMist oral spray is useful for patients who have trouble returning to sleep in the middle of the night. Zaleplon and ramelteon are used for insomnia caused by difficulty with sleep onset. Chloral hydrate is not typically used as outpatient therapy.

### Question 3

2 / 2 pts

A 5-year-old child who has no previous history of otitis media is seen in clinic with a temperature of 100° F. The primary care NP visualizes bilateral erythematous, nonbulging, intact tympanic membranes. The child is taking fluids well and is playing with toys in the examination room. The NP should:



prescribe azithromycin once daily for 5 days.



prescribe amoxicillin twice daily for 10 days.



prescribe amoxicillin-clavulanate twice daily for 10 days.



initiate antibiotic therapy if the child's condition worsens.

Signs and symptoms of otitis media that indicate a need for antibiotic treatment include otalgia, fever, otorrhea, or a bulging yellow or red tympanic membrane. This child has a low-grade fever, no history of otitis media, a nonbulging tympanic membrane, and no otorrhea, so watchful waiting is appropriate. When an antibiotic is started, amoxicillin is the drug of choice.

### Question 4

2 / 2 pts

An 80-year-old patient with congestive heart failure has a viral upper respiratory infection. The patient asks the primary care NP about treating the fever, which is 38.5° C. The NP should:



recommend acetaminophen.



recommend high-dose acetaminophen.



tell the patient that antibiotics are needed with a fever that high.



tell the patient a fever less than 40° C does not need to be treated.

Patients with congestive heart failure may have tachycardia from fever that aggravates their symptoms, so fever should be treated. High doses should be given with caution in elderly patients because of possible decreased hepatic function. Antibiotics should not be given without evidence of bacterial infection.

## Question 5

2 / 2 pts

A patient who takes levodopa and carbidopa for Parkinson's disease reports experiencing freezing episodes between doses. The primary care NP should consider using:



selegiline.



amantadine.



apomorphine.



modified-release levodopa.

Apomorphine injection is used for acute treatment of immobility known as "freezing."

## Question 6

2 / 2 pts

A patient is being tapered from long-term therapy with prednisolone and reports weight loss and fatigue. The primary care NP should counsel this patient to:



consume foods high in vitamin D and calcium.



begin taking dexamethasone because it has longer effects.



expect these side effects to occur as the medication is tapered.



increase the dose of prednisolone to the most recent amount taken.

Sudden discontinuation or rapid tapering of glucocorticoids in patients who have developed adrenal suppression can precipitate symptoms of adrenal insufficiency, including nausea, weakness, depression, anorexia, myalgia, hypotension, and hypoglycemia. When patients experience these symptoms during a drug taper, the dose should be increased to the last dose. Vitamin D deficiency is common while taking glucocorticoids, but these are not symptoms of vitamin D deficiency. Changing to another glucocorticoid is not recommended. Patients should be taught to report the side effects so that action can be taken and should not be told that they are to be expected.

## Question 7

2 / 2 pts

The primary care nurse practitioner (NP) sees a 50-year-old woman who reports frequent leakage of urine. The NP learns that this occurs when she laughs or sneezes. She also reports having an increased urge to void even when her bladder is not full. She is not taking any medications. The NP should:



perform a dipstick urinalysis.



prescribe desmopressin (DDAVP).



prescribe oxybutynin chloride (Ditropan XL).



teach exercises to strengthen the pelvic muscles.

A focused history with a careful physical examination is essential for determining the cause of incontinence. Urinalysis can rule out urinary tract infection (UTI), which can cause incontinence. Medications are prescribed after determining the cause, if any, and treating underlying conditions. Exercises to strengthen the pelvic muscles are part of treatment.

## Question 8

2 / 2 pts

A 7-year-old patient who has severe asthma takes oral prednisone daily. At a well-child examination, the primary care NP notes a decrease in the child's linear growth rate. The NP should consult the child's asthma specialist about:

gradually tapering the child off the prednisone.

a referral for possible growth hormone therapy.



**giving a double dose of prednisone every other day.**



dividing the prednisone dose into twice-daily dosing.

Administration of a double dose of a glucocorticoid every other morning has been found to cause less suppression of the HPA axis and less growth suppression in children. Because the child has severe asthma, an oral steroid is necessary. Growth hormone therapy is not indicated. Twice-daily dosing would not change the HPA axis suppression.

### Question 9

**2 / 2 pts**

A patient who is taking isoniazid and rifampin for latent TB is seen by the primary care NP for a routine follow-up visit. The patient reports having nausea, vomiting, and a decreased appetite. The NP should:



**ask about alcohol intake.**



suggest taking the medications with food.



reassure the patient that these side effects are common.



order liver and renal function tests and serum glucose.

Concomitant use of alcohol with isoniazid increases the risk of hepatitis. This patient shows signs of hepatitis, so the NP should ask about alcohol consumption. Isoniazid should be taken on an empty stomach.

## Question 10

2 / 2 pts

A primary care NP sees a child with asthma to evaluate the child's response to the prescribed therapy. The child uses an ICS twice daily and an albuterol metered-dose inhaler as needed. The child's symptoms are well controlled. The NP notes slowing of the child's linear growth on a standardized growth chart. The NP should change this child's medication regimen to a:



combination ICS/LABA inhaler twice daily.



short-acting  $\beta_2$ -agonist (SABA) with oral corticosteroids when symptomatic.



combination ipratropium/albuterol inhaler twice daily.



SABA as needed plus a leukotriene modifier once daily.

A leukotriene modifier may be used as an alternative to ICS for children who experience systemic side effects of the ICS. This child's symptoms are well controlled, so there is no need to step up therapy to include a LABA. Oral corticosteroids should be used only for severe exacerbations. Ipratropium and albuterol are used for severe exacerbations.

## Question 11

2 / 2 pts

A patient is newly diagnosed with Alzheimer's disease stage 6 on the Global Deterioration Scale. The primary care NP should prescribe:



donepezil (Aricept).



rivastigmine (Exelon).



memantine (Namenda).



galantamine (Razadyne).

Patients with moderate to severe dementia (stages 5 to 7) may be started on memantine.

### Question 12

2 / 2 pts

The primary care NP sees a 12-month-old infant who needs the MMR, Varivax, influenza, and hepatitis A vaccines. The child's mother tells the NP that she is pregnant. The NP should:



administer all of these vaccines today.



give the hepatitis A and influenza vaccines.



give the Varivax, hepatitis A, and influenza vaccines.



withdraw all of these vaccines until after the baby is born.

Although live-virus vaccines should not be administered to mothers during pregnancy, they may be given to children whose mothers are pregnant.

### Question 13

2 / 2 pts

A parent brings a 5-year-old child to a clinic for a hospital follow-up appointment. The child is taking a medication at a dose equal to an adult dose. The parent reports that the medication is not producing the desired effects. The NP should:



order renal function tests.



prescribe another medication to treat this child's symptoms.



discontinue the drug and observe the child for toxic side effects.



obtain a serum drug level and consider increasing the drug dose.

By a child's first birthday, the liver's metabolic capabilities are not only mature but also more vigorous than the adult liver, meaning that certain drugs may need to be given in higher doses or more often. It is prudent to obtain a serum drug level

and then consider increasing the dose to achieve the desired effect. Renal function tests are not indicated. Unless the child is experiencing toxic effects, the drug does not need to be discontinued.

### Question 14

2 / 2 pts

An NP orders an inhaled corticosteroid 2 puffs twice daily and an albuterol metered-dose inhaler 2 puffs every 4 hours as needed for cough or wheezing for a 65-year-old patient with recent onset of reactive airways disease who reports symptoms occurring every 1 or 2 weeks. At a follow-up appointment several months later, the patient reports no change in frequency of symptoms. The NP's initial action should be to:



order spirometry to evaluate pulmonary function.



prescribe a systemic corticosteroid to help with symptoms.



ask the patient to describe how the medications are taken each day.



give the patient detailed information about the use of metered-dose inhalers.

It is essential to explore with the older patient what he or she is actually doing with regard to daily medication use and compare this against the "prescribed" medication regimen before ordering further tests, prescribing any increase in medications, or providing further education.

### Question 15

2 / 2 pts

A patient is diagnosed with a condition that causes chronic pain. The primary care NP prescribes an opioid analgesic and should instruct the patient to:



wait until the pain is at a moderate level before taking the medication.



take the medication at regular intervals and not just when pain is present.



start the medication at higher doses initially and taper down gradually.



take the minimum amount needed even when pain is severe to avoid dependency.

Chronic pain requires routine administration of drugs, and patients should take analgesics routinely without waiting for increased pain.

### Question 16

2 / 2 pts

A patient tells the primary care NP that he has difficulty getting and maintaining an erection. The NP's initial response should be to:



prescribe sildenafil (Viagra).



perform a medication history.



evaluate his cardiovascular status.



order a papaverine injection test to screen for erectile dysfunction.

Because the use of multiple medications is associated with a higher prevalence of erectile dysfunction, a medication history should be performed first to see if any medications have sexual side effects. A cardiovascular evaluation may be assessed next. Papaverine injection tests are useful screening tools after a thorough history has been performed. Medications are prescribed only after a diagnosis is determined and other causes have been ruled out.

### Question 17

2 / 2 pts

A 55-year-old patient develops Parkinson's disease characterized by unilateral tremors only. The primary care NP will refer the patient to a neurologist and should expect initial treatment to be:



levodopa.



carbidopa.



pramipexole.



carbidopa/levodopa.

Patients younger than 65 years of age should be started with a dopamine agonist.

### Question 18

2 / 2 pts

A patient who has migraine headaches without an aura reports difficulty treating the migraines in time because they come on so suddenly. The patient has been using over-the-counter NSAIDs. The primary care NP should prescribe:



frovatriptan (Frova).



sumatriptan (Imitrex).



cycloheptadine (Periactin).



dihydroergotamine (D.H.E. 45).

If the patient is able to take medication at the earliest onset of migraine, ergots are usually effective. Triptans are more effective when patients have difficulty "catching the headache in time." Sumatriptan begins to work in 15 minutes and so would be indicated for this patient. Frovatriptan has a longer half-life. Cyproheptadine is not a first-line migraine treatment.

### Question 19

2 / 2 pts

A woman tells a primary care NP that she is considering getting pregnant. During a health history, the NP learns that the patient has seasonal allergies, asthma, and epilepsy, all of which are well controlled with a second-generation antihistamine daily, an inhaled steroid daily with albuterol as needed, and an antiepileptic medication daily. The NP should counsel this patient to:



take her asthma medications only when she is having an acute exacerbation.



avoid using antihistamine medications during her first trimester of pregnancy.



discontinue her seizure medications at least 6 months before becoming pregnant.



use only oral corticosteroids and not inhaled steroids while pregnant for improved asthma control.

Optimal treatment of asthma during pregnancy includes treatment of comorbid allergic rhinitis, which can trigger symptoms. Antihistamines are recommended after the first trimester, if possible. Asthma medications should be continued during pregnancy because poorly controlled asthma can be detrimental to the fetus; she should continue using her daily inhaled corticosteroid. Although discontinuing seizure medications is optimal, this must be done in conjunction with this woman's neurologist because management of epilepsy during pregnancy is beyond the scope of the primary care provider. Oral corticosteroids have greater systemic side effects and greater effects on the fetus and should be used only as necessary.

## Question 20

2 / 2 pts

A patient who has partial seizures has been taking phenytoin (Dilantin). The patient has recently developed thrombocytopenia. The primary care nurse practitioner (NP) should contact the patient's neurologist to discuss changing the patient's medication to:



topiramate (Topamax).



levetiracetam (Keppra).



zonisamide (Zonegran).



carbamazepine (Tegretol).

Evidence-based recommendations exist showing carbamazepine to be effective as monotherapy for partial seizures. Because this patient has developed a serious side effect of phenytoin, changing to carbamazepine may be a good option. The other three drugs may be added to phenytoin or another first-line drug when drug-resistant seizures occur, but are not recommended as monotherapy.

## Question 21

**2 / 2 pts**

A patient is taking dicloxacillin (Dynapen) 500 mg every 6 hours to treat a severe penicillinase-resistant infection. At a 1-week follow-up appointment, the patient reports nausea, vomiting, and epigastric discomfort. The primary care NP should:



change the medication to a cephalosporin.



decrease the dose to 250 mg every 6 hours.



reassure the patient that these are normal adverse effects of this drug.



order blood cultures, a white blood cell (WBC) count with differential, and liver function tests (LFTs).

When giving penicillinase-resistant penicillins, it is important to monitor therapy with blood cultures, WBC with differential cell counts, and LFTs before treatment and weekly during treatment. This patient may have typical gastrointestinal side effects, but the symptoms may also indicate hepatic damage. Changing the medication is not indicated, unless serious side effects are present. Decreasing the dose is not indicated.

**Question 22****2 / 2 pts**

A 75-year-old patient who lives alone will begin taking a narcotic analgesic for pain. To help ensure patient safety, the NP prescribing this medication should:



assess this patient's usual sleeping patterns.



ask the patient about problems with constipation.



obtain a baseline creatinine clearance test before the first dose.



perform a thorough evaluation of cognitive and motor abilities.

The body system most significantly affected by increased receptor sensitivity in elderly patients is the central nervous system, making this population sensitive to numerous drugs. It is important to evaluate motor and cognitive function before

beginning drugs that affect the central nervous system to minimize the risk of falls. Assessment of sleeping patterns is important, but not in relation to patient safety. It is not necessary to evaluate stool patterns or renal function.

### Question 23

2 / 2 pts

A patient has been taking intramuscular (IM) meperidine 75 mg every 6 hours for 3 days after surgery. When the patient is discharged from the hospital, the primary care NP should expect the patient to receive a prescription for \_\_\_\_\_ mg orally every \_\_\_\_\_ hours.



hydrocodone 30; 6



hydrocodone 75; 6



meperidine 300;12



meperidine 75; 6

When patients are switched from one opiate to another, an equianalgesic table should be used to convert the dosage of the current drug to the equivalent dosage of the new drug. An oral dose of 30 mg of hydrocodone is equivalent to an IM dose of 75 mg of meperidine.

### Question 24

2 / 2 pts

A patient who is obese and has hypertension is taking a thiazide diuretic and develops gouty arthritis, which is treated with probenecid. At a follow-up visit, the patient's serum uric acid level is 7 mg/dL, and the patient denies any current symptoms. The primary care NP should discontinue the probenecid and:



prescribe colchicine.



prescribe febuxostat.



tell the patient to use an NSAID if symptoms recur.



counsel the patient to report recurrence of symptoms.

Colchicine is a first-line drug for preventing acute attacks. Because this patient has three risk factors, a preventive medication should be used. Febuxostat is a second-line preventive medication. The patient should not be treated on an as-needed basis.

## Question 25

2 / 2 pts

A mother brings her a college-age son to the primary care NP and asks the NP to talk to him about alcohol use. He reports binge drinking on occasion and drinking only beer on weekends. The NP notes diaphoresis, tachycardia, and an easy startle reflex. The NP should:



admit him to the hospital for detoxification.



ask him how much he had to drink last night.



prescribe lorazepam (Ativan) to help with symptoms.



suggest that he talk to a counselor about alcohol abuse.

He is showing signs of alcohol withdrawal and possible delirium tremens and so should be admitted to the hospital. Asking him about drinking and suggesting outpatient counseling would be useful for a less emergent condition. The NP should not prescribe a medication to treat delirium tremens on an outpatient basis.

## Question 26

2 / 2 pts

A primary care NP sees a patient who has fever, flank pain, and dysuria. The patient has a history of recurrent urinary tract infections (UTIs) and completed a course of trimethoprim-sulfamethoxazole (TMP/SMX) the week before. A urine test is positive for leukocyte esterase. The NP sends the urine for culture and should treat this patient empirically with:



gemifloxacin.

- ciprofloxacin.

- azithromycin.
- TMP/SMX.

Fluoroquinolones are effective in treatment of UTIs that are resistant to other antibiotics. Because this patient recently completed a course of TMP/SMX, the NP can assume that the bacterium causing the infection is resistant to TMP/SMX. Gemifloxacin is not indicated for UTI, but ciprofloxacin is. Azithromycin is not a fluoroquinolone.

### Question 27

2 / 2 pts

A patient who takes carbamazepine (Tegretol) has been seizure-free for 2 years and asks the primary care NP about stopping the medication. The NP should:

- order an electroencephalogram (EEG).

- prescribe a tapering regimen of the drug.
- inform the patient that antiepileptic drug (AED) therapy is lifelong.
- tell the patient to stop the drug and use only as needed.

Discontinuation of AEDs may be considered in patients who have been seizure-free for longer than 2 years. An EEG should be obtained before the medication is withdrawn. The drug should be tapered to prevent status epilepticus, but only after a normal EEG is obtained. AED therapy is not lifelong in all patients. Patients should not stop AED medications abruptly, and these drugs are not used on an as-needed basis.

### Question 28

2 / 2 pts

A primary care NP has been working with a young woman who wants to quit smoking before she begins having children. She has made several attempts to

quit using nicotine replacement therapy and is feeling discouraged. She does not want to take medication at this time. The NP should:



discuss the effects of smoking on fetal development.



ask her to write down any factors that triggered her relapses.



give her information about the long-term effects of smoking.



convince her that taking medication will be essential in her case.

Each attempt to quit smoking should not be seen as a failure but as a trial for the next attempt. Asking a patient who is motivated to quit to write down things that may have contributed to the relapse will help the patient learn from the previous attempts. The patient already knows about the effects of smoking on fetal development because that is her motivation for quitting. Offering medication may be necessary, but only if the patient desires it.

### Question 29

2 / 2 pts

A primary care NP prescribes a nonselective NSAID for a patient who has osteoarthritis. The patient expresses concerns about possible side effects of this medication. When counseling the patient about the medication, the NP should tell this patient:



to avoid taking antacids while taking the NSAID.



to take each dose of the NSAID with a full glass of water.



that a few glasses of wine each day are allowed while taking the NSAID.



to decrease the dose of the NSAID if GI symptoms occur.

To avoid GI distress associated with NSAIDs, a full glass of water is recommended. Patients may take NSAIDs with antacids. Patients should avoid alcohol while taking NSAIDs. Patients should report GI symptoms to their provider.

### Question 30

2 / 2 pts

A patient has been taking a COX-2 selective NSAID to treat pain associated with a recent onset of RA. The patient tells the primary care NP that the pain and joint swelling are becoming worse. The patient does not have synovitis or extraarticular manifestations of the disease. The NP will refer the patient to a rheumatologist and should expect the specialist to prescribe:



methotrexate.



corticosteroids.



opioid analgesics.



hydroxychloroquine.

In mild RA disease, patients are given NSAIDs first for 2 to 3 months, and then either hydroxychloroquine or sulfasalazine is added if the disease does not remit. Methotrexate is a first-line drug for patients with more aggressive symptoms, such as synovitis or extraarticular symptoms. Opioid analgesics are used as adjuncts for pain relief along with DMARDs.

### Question 31

2 / 2 pts

A patient has been taking an opioid analgesic for 2 weeks after a minor outpatient procedure. At a follow-up clinic visit, the patient tells the primary care NP that he took extra doses for the past 2 days because of increased pain and wants an early refill of the medication. The NP should suspect:



dependence.



drug addiction.



possible misuse.



increasing pain.

Unsanctioned dose increases are a sign of possible drug misuse. Dependence refers to an abstinence or withdrawal syndrome. Drug addiction is an obsession with obtaining and using the drug for nonmedical purposes. The patient should not have increased pain at 2 weeks.

### Question 32

2 / 2 pts

An elderly patient with dementia exhibits hostility and uncooperativeness. The primary care NP prescribes clozapine (Clozaril) and should counsel the family about:



a decreased risk of extrapyramidal symptoms.



improved cognitive function.



the need for long-term use of the medication.



a possible increased risk of heart disease and stroke.

Antipsychotics are useful in treating some psychiatric symptoms of dementia and help to improve quality of life in many patients. They do not improve cognitive function, however. They increase the risk of extrapyramidal symptoms and should be used only on a short-term basis. They increase the risk of heart disease and stroke.

### Question 33

2 / 2 pts

A patient who was hospitalized for an infection was treated with an aminoglycoside antibiotic. The patient asks the primary care nurse practitioner (NP) why outpatient treatment wasn't an option. The NP should tell the patient that aminoglycoside antibiotics:



are more likely to be toxic.



cause serious adverse effects.



carry more risk for serious allergic reactions.



must be given intramuscularly or intravenously.

Aminoglycoside antibiotics must be given intramuscularly or intravenously when treating infection. Their side effects may be serious, which is an indication for hospitalization.

### Question 34

2 / 2 pts

A woman who is pregnant tells an NP that she has been taking sertraline for depression for several years but is worried about the effects of this drug on her fetus. The NP will consult with this patient's psychiatrist and will recommend that she:



stop taking the sertraline now.



continue taking the antidepressant.



change to a monoamine oxidase inhibitor (MAOI).



discontinue the sertraline a week before delivery.

Many women are taking medication for depression before becoming pregnant. Abrupt discontinuation is not recommended, and many clinicians suggest that women at high risk for serious depression during pregnancy might best be served by continuing medication throughout pregnancy. MAOIs may limit fetal growth and are generally discouraged during pregnancy. It is not necessary to discontinue the sertraline just before delivery.

### Question 35

2 / 2 pts

A patient who has HIV is being treated with Emtriva. The patient develops hepatitis B. The primary care NP should contact the patient's infectious disease specialist to discuss:



adding zidovudine.



changing to Truvada.



changing to tenofovir.



ordering Combivir and tenofovir.

Truvada contains the antiretroviral therapies in Emtriva plus tenofovir. Tenofovir is effective against hepatitis B and is used in combination with emtricitabine as a preferred first-line choice.

### Question 36

2 / 2 pts

A patient who was in a motor vehicle accident has been treated for lower back muscle spasms with metaxalone (Skelaxin) for 1 week and reports decreased but persistent pain. A computed tomography scan is normal. The primary care NP should:



suggest ice and rest.



order physical therapy.



prescribe diazepam (Valium).



add an opioid analgesic medication.

Physical therapy may be used as an injury begins to heal. This patient is experiencing improvement of symptoms, so physical therapy may now be helpful. Ice and rest are useful in the first 24 to 48 hours after injury. Diazepam is used on a short-term basis only. Opioid analgesics are used for severe pain.

### Question 37

2 / 2 pts

A primary care NP sees a patient who has dysuria, fever, and urinary frequency. The NP orders a urine dipstick, which is positive for nitrates and leukocyte esterase, and sends the urine to the laboratory for a culture. The patient is allergic to sulfa drugs. The NP should:



order cefaclor (Ceclor).



**prescribe cefixime (Suprax).**



administer intramuscular ceftriaxone (Rocephin).



wait for culture results before ordering an antibiotic.

Cephalosporins are useful for empirical treatment of many of the most common infections seen in primary care. Cefixime is a third-generation cephalosporin, which has greater activity against *Escherichia coli* and excellent penetration into body fluids, making it a good choice for empirical treatment of urinary tract infection.

### Question 38

**2 / 2 pts**

A patient comes to the clinic several days after an outpatient surgical procedure complaining of swelling and pain at the surgical site. The primary care NP notes a small area of erythema but no abscess or induration. The NP should:



**prescribe TMP-SMX.**



prescribe topical mupirocin four times daily.



suggest that the patient apply warm soaks three times daily.



refer the patient to the surgeon for further evaluation.

This patient has cellulitis, so empirical treatment with TMP-SMX is indicated. Topical mupirocin is used for superficial skin infections, not cellulitis. Warm soaks

may be used as an adjunct to antimicrobial treatment. Unless the cellulitis becomes worse, it is not necessary to refer the patient to the surgeon.

### Question 39

2 / 2 pts

A patient who has genital herpes has frequent outbreaks. The patient asks the primary care NP why it is necessary to take oral acyclovir all the time and not just for acute outbreaks. The NP should explain that oral acyclovir may:



prevent the virus from developing resistance.



cause episodes to be shorter and less frequent.



actually eradicate the virus and cure the disease.



reduce the chance of transmitting the virus to others.

Oral acyclovir has prevented or reduced the frequency of severity of recurrences in more than 95% of patients and so should be given to patients with recurrent episodes. It does not affect resistance. The antiviral medication does not eradicate the virus; it prevents replication. The disease is transmitted even without symptoms.

### Question 40

2 / 2 pts

A patient is taking isoniazid, pyrazinamide, rifampin, and streptomycin to treat TB. The primary care NP should routinely perform:



serum glucose and liver function tests (LFTs).



bone marrow density and ophthalmologic tests.



ophthalmologic, hearing, and serum glucose tests.



color vision, serum glucose, and LFTs.

For patients taking isoniazid, obtain periodic ophthalmologic examinations; for patients taking pyrazinamide, perform blood glucose tests.

### Question 41

2 / 2 pts

A primary care NP sees a patient who was recently hospitalized for infection and treated with gentamicin for 10 days. The patient tells the NP that the drug was discontinued early because "my blood level was too high." The NP should order:



a serial audiometric test.



a serum blood urea nitrogen (BUN) and creatinine.



a urinalysis and complete blood count.



serum calcium, magnesium, and sodium.

Aminoglycosides are associated with ototoxicity and nephrotoxicity. Recovery of renal function occurs if the drug is stopped at the first sign of renal impairment. The NP should evaluate the possibility of ototoxicity with a serial audiometric test.

### Question 42

2 / 2 pts

A 40-year-old woman asks the primary care NP what she can do to minimize her risk of osteoporosis. She takes 800 mg of calcium and drinks 2 cups of skim milk each day. The NP should recommend that she:



decrease dietary fat.



limit her caffeine intake.



consume a high-protein diet.



drink diet instead of sugary sodas.

Large amounts of caffeine decrease calcium absorption. Calcium absorption is improved with fat and decreased with high protein intake. All sodas contain phosphorus, which decreases calcium levels.

### Question 43

2 / 2 pts

A patient has a sore throat with fever. The primary care NP observes erythematous 4+ tonsils with white exudate. A rapid antigen strep test is negative, and a culture is pending. The NP orders amoxicillin as empiric treatment. The patient calls the next day to report a rash. The NP should suspect:



penicillin drug allergy.



a viral cause for the patient's symptoms.



a serum sickness reaction to the penicillin.



scarlatiniform rash from the streptococcal infection.

Certain viral infections, such as mononucleosis, increase the frequency of rash in response to penicillin and is commonly attributed to penicillin allergy.

### Question 44

2 / 2 pts

A patient is taking sulfisoxazole. The patient calls the primary care NP to report abdominal pain, nausea, and insomnia. The NP should:



change to TMP/SMX.



tell the patient to stop taking the drug immediately.



reassure the patient that these are minor adverse effects of this drug.



order a CBC with differential, platelets, and a stool culture.

These side effects are considered common minor side effects of sulfonamide medications. They occur with all drugs in this class, so changing to TMP/SMX is not indicated. The patient should continue taking the medication. It is not necessary to perform laboratory tests.

### Question 45

2 / 2 pts

A patient is in the clinic with acute symptoms of anxiety. The patient is restless and has not slept in 3 days. The primary care NP observes that the patient is irritable and has moderate muscle tension. The patient's spouse reports that similar symptoms have occurred before in varying degrees for several years. The NP should refer the patient to a psychologist and should prescribe which drug for short-term use?



Alprazolam



Buspirone



Melatonin



Zolpidem

For acute anxiety, a benzodiazepine should be prescribed. SSRIs or buspirone should be used for long-term treatment. Melatonin and zolpidem are anti-insomnia agents.

### Question 46

2 / 2 pts

A woman who takes oral contraceptive pills develops vaginal candidiasis. The primary care NP prescribes a single dose of fluconazole. When counseling the patient about this drug, the NP should tell her:



that the drug is safe if she were to become pregnant.



that she may consume alcohol while taking this medication.



to use a backup contraceptive method for the next 2 months.



that she may need a lower dose of fluconazole because she takes oral contraceptive pills.

Women using oral contraception who take antifungals should be advised to use supplemental contraception during and for 2 months after antifungal therapy. Antifungals have teratogenic effects and are not safe during pregnancy. Patients should not consume alcohol while taking antifungal medications. It is not necessary to lower the antifungal dose in women taking oral contraceptive pills.

### Question 47

2 / 2 pts

A patient in the clinic reports taking a handful of acetaminophen extra-strength tablets about 12 hours prior. The patient has nausea, vomiting, malaise, and drowsiness. The patient's aspartate aminotransferase and alanine aminotransferase are mildly elevated. The primary care NP should:



expect the patient to sustain permanent liver damage.



reassure the patient that these symptoms are reversible.



tell the patient that acetylcysteine cannot be given this late.



administer activated charcoal to remove acetaminophen from the body.

After acetaminophen overdose, if liver enzymes are elevated within 24 hours, irreversible liver damage is likely. Acetylcysteine may still be given to mitigate the effects. Activated charcoal is effective only when given immediately.

### Question 48

2 / 2 pts

An NP sees a preschooler in clinic for the first time. When obtaining a medication history, the NP notes that the child is taking a medication for which safety and effectiveness in children has not been established in drug information literature. The NP should:



discontinue the medication.



order serum drug levels to evaluate toxicity.



report the prescribing provider to the Food and Drug Administration (FDA).



ask the parent about the drug's use and side effects.

Many of the drugs and biologic products most widely used in pediatric patients carry disclaimers stating that safety and effectiveness in pediatric patients have not been established. The NP should find out why the drug was prescribed and whether there are any significant side effects. The medication should not be discontinued unless there are known toxic effects. Serum drug levels may be warranted if side effects are reported. The NP would not report the prescribing provider to the FDA unless there are clear, evidence-based contraindications to prescribing a drug to children.

### Question 49

2 / 2 pts

A patient who has Parkinson's disease who takes levodopa and carbidopa reports having drooling episodes that are increasing in frequency. The primary care NP should order:



benztropine.



amantadine.



apomorphine.



modified-release levodopa.

Anticholinergics, such as benztropine, are used to control drooling.

### Question 50

2 / 2 pts

The primary care NP sees a 6-month-old infant for a routine physical examination and notes that the infant has a runny nose and a cough. The parents report a 2-day history of a temperature of 99° F to 100° F and two to three loose stools per day. Other family members have similar symptoms. The infant has had two sets of immunizations at 2 and 4 months of age. The NP should:



administer the 6-month immunizations at this visit today.



schedule an appointment in 2 weeks for 6-month immunizations.



administer DTaP, Hib, IPV, hepatitis B, and PCV13 today and RV in 2 weeks.



withhold all immunizations until the infant's temperature returns to normal and the cough is gone.

Minor upper respiratory infection or gastroenteritis, with or without fever, is not an indication for withholding a scheduled vaccine dose.

### Question 51

2 / 2 pts

A patient who was recently hospitalized and treated with gentamicin tells the primary care NP, "My kidney function test was abnormal and they stopped the medication." The patient is worried about long-term effects. The NP should:



monitor renal function for several months.



reassure the patient that complete recovery should occur.



refer the patient to a nephrologist for follow-up evaluation.



monitor serum electrolytes and serum creatinine and BUN.

Recovery of renal function occurs if the drug is stopped at the first sign of renal impairment. It is necessary to monitor blood values during therapy to ensure effectiveness and prevent toxicity.

### Question 52

2 / 2 pts

A patient has begun treatment for HIV. The primary care NP should monitor the patient's complete blood count (CBC) at least every \_\_\_\_\_ months.



1 to 3



3 to 6



6 to 9



9 to 12

The patient's CBC should be monitored at least every 3 to 6 months and more frequently if values are low and bone marrow toxicity is present.

### Question 53

2 / 2 pts

A patient who was recently diagnosed with COPD comes to the clinic for a follow-up evaluation after beginning therapy with a SABA as needed for dyspnea. The patient reports occasional mild exertional dyspnea but is able to sleep well. The patient's FEV<sub>1</sub> in the clinic is 85% of predicted, and oxygen saturation is 96%. The primary care NP should recommend:



a combination LABA/ICS twice daily.



**influenza and pneumococcal vaccines.**



ipratropium bromide (Atrovent) twice daily.



home oxygen therapy as needed for dyspnea.

Influenza and pneumococcal immunizations are recommended to help reduce comorbidity that will affect respiratory status. This patient is stable with the prescribed medications, so no additional medications are needed at this time. Home oxygen therapy is used for patients with severe resting hypoxemia.

### Question 54

2 / 2 pts

A patient who takes 150 mg of clozapine (Clozaril) twice daily calls the primary care NP at 10:00 AM one day to report forgetting to take the 8:00 AM dose. The NP should counsel the patient to:



take the missed dose now.



take 75 mg of clozapine now.



**wait and take the evening dose at the usual time.**



take the evening dose 2 hours earlier than usual.

Advise patients to take missed doses only if remembered within 1 hour after the time the dose was due.

### Question 55

2 / 2 pts

A patient has been taking fluoxetine 20 mg every morning for 5 days and calls the primary care NP to report decreased appetite, nausea, and insomnia. The NP should:



suggest taking a sedative at bedtime.



change the medication to bupropion.



add trazodone to the patient's regimen.



**reassure the patient that these effects will subside.**

Side effects are seen with the first few doses but resolve in approximately 7 days. Patients should avoid taking sedatives while taking antidepressants.

### Question 56

2 / 2 pts

A female patient presents with grayish, odorous vaginal discharge. The primary care NP performs a gynecologic examination and notes vulvar and vaginal erythema. Testing of the discharge reveals a pH of 5.2 and a fishy odor when mixed with a solution of 10% potassium hydroxide. The NP should:



order topical fluconazole.



order metronidazole 500 mg twice daily for 7 days.



withhold treatment until culture results are available.



prescribe a clotrimazole vaginal suppository for 7 days.

This patient has classic symptoms of bacterial vaginosis. The treatment of choice is metronidazole. Fluconazole is used to treat fungal infections. Cultures are generally not helpful in the diagnosis of bacterial vaginosis. Clotrimazole is used to treat *Candida* infections.

### Question 57

2 / 2 pts

An 80-year-old patient has a diagnosis of glaucoma, and the ophthalmologist has prescribed timolol (Timoptic) and pilocarpine eye drops. The primary care NP should counsel this patient:



that systemic side effects of these medications may be severe.



that the combination of these two drugs may cause drowsiness.



to begin an exercise program to improve cardiovascular health.



that a higher dose of one or both of these medications may be needed.

Older patients are susceptible to systemic effects of topical eye drops. Timolol can cause cerebrovascular, central nervous system, and respiratory side effects, and pilocarpine can cause systemic  $\beta$ -blocker effects. The combination does not cause drowsiness. Although there is some correlation between cardiovascular health and glaucoma, beginning a new exercise program is not indicated. A higher dose of the medications would increase systemic side effects.

## Question 58

2 / 2 pts

An 18-month-old child who attends day care has head lice and has been treated with permethrin 1% (Nix). The parent brings the child to the clinic 1 week later, and the primary care NP notes live bugs on the child's scalp. The NP should order:



lindane.



malathion.



ivermectin.



permethrin 5%.

Permethrin is the first-line drug of choice for treating head lice and is usually effective in one application. Significant resistance to permethrin 1% has developed, and permethrin 5% is more effective. In pediculosis, if live lice can be found after 1 week, reapply treatment. This child may have been reinfected at day care and so should be treated again. Malathion is a second-line drug and is not recommended in children younger than age 2. Lindane is a third-line drug. Ivermectin is a fourth-line drug.

## Question 59

2 / 2 pts

An adult patient who has a viral upper respiratory infection asks the primary care nurse practitioner (NP) about taking acetaminophen for fever and muscle aches. To help ensure against possible drug toxicity, the NP should first:



determine the patient's height and weight.



ask the patient how high the temperature has been.



tell the patient to take 325 mg initially and increase as needed.



ask the patient about any other over-the-counter (OTC) cold medications being used.

Acetaminophen is present in many other OTC products, so patients should be cautioned about taking these with acetaminophen to avoid overdose. The adult dose is not based on height and weight and is not determined by the degree of temperature elevation.

### Question 60

2 / 2 pts

The primary care NP follows a patient who is being treated for RA with methotrexate. The patient asks the NP why the medication does not seem to alleviate pain. The NP tells the patient that:



an immunomodulator may be needed to control pain.



a higher dose of methotrexate may be needed to achieve pain control.



if methotrexate does not control pain, an opioid analgesic may be necessary.



**methotrexate is used to slow disease progression and preserve joint function.**

Disease-modifying antirheumatic drugs (DMARDs) have antiinflammatory effects that may slow disease progression and preserve joint function. Acetaminophen and nonsteroidal antiinflammatory drugs (NSAIDs) are common adjuncts to therapy to treat pain.

### Question 61

2 / 2 pts

A patient has a UTI and will begin treatment with an antibiotic. The patient reports moderate to severe suprapubic pain. The primary care NP should prescribe:



ibuprofen as needed.



bethanechol (Urecholine).



**phenazopyridine (Pyridium).**



increased oral fluid intake to dilute urine.

Phenazopyridine is a urinary tract analgesic used to treat pain via a local analgesic effect on urinary tract mucosa in conjunction with antibiotics to treat UTI. Ibuprofen may be used but does not have direct effects on the urinary tract mucosa. Bethanechol is used to treat voiding dysfunction and not pain. Increasing fluid intake should be used as adjunct therapy.

### Question 62

**2 / 2 pts**

The parent of an 8-year-old child recently diagnosed with AD/HD verbalizes concerns about giving the child stimulants. The primary care NP should recommend:



modafinil (Provigil).



guanfacine (Intuniv).



bupropion (Wellbutrin).



**atomoxetine (Strattera).**

Atomoxetine is not a stimulant medication but is thought to be as effective as stimulant medications. It is the only nonstimulant treatment approved by the U.S. Food and Drug Administration for AD/HD that has been shown to be safe, well tolerated, and efficacious in the treatment of children.

### Question 63

**2 / 2 pts**

The primary care NP is performing a medication reconciliation on a patient who takes digoxin for congestive heart failure and learns that the patient uses ibuprofen as needed for joint pain. The NP should counsel this patient to:



**use naproxen (Naprosyn) instead of ibuprofen.**



increase the dose of digoxin while taking the ibuprofen.



use an increased dose of ibuprofen while taking the digoxin.



take potassium supplements to minimize the effects of the ibuprofen.

Ibuprofen and indomethacin increase the effects of digoxin, so the NP should recommend another NSAID, such as naproxen, that does not have this effect. Increasing the dose of digoxin or the ibuprofen would increase the likelihood of digoxin toxicity further. Potassium should be monitored while taking NSAIDs long-term, but supplements should not be given unless there is a potassium deficiency.

## Question 64

2 / 2 pts

A patient who takes valproic acid for a seizure disorder is preparing to have surgery. The primary care NP should order:



coagulation studies.



a complete blood count.



an EEG.



a creatinine clearance test.

Valproic acid may cause thrombocytopenia and inhibition of platelet aggregation. Platelet counts and coagulation studies should be done before therapy is initiated, at regular intervals, and before any surgical procedure is performed.

## Question 65

2 / 2 pts

A patient who has Alzheimer's disease is taking 10 mg of donepezil daily and reports difficulty sleeping. The primary care NP should recommend:



decreasing the dose to 5 mg.



increasing the dose to 15 mg.



taking the drug in the morning.



taking the drug in the evening.

Donepezil is typically taken in the evening just before going to bed; however, in patients experiencing sleep disturbance, daytime administration is preferred. The dose should not be increased or decreased.

### Question 66

2 / 2 pts

A child has been taking methylphenidate 5 mg at 8 AM, 12 PM, and 4 PM for 30 days after a new diagnosis of AD/HD and comes to the clinic for evaluation. The child's mother reports that the child exhibits some nervousness and insomnia but is doing much better in school. The primary care NP should suggest:



discontinuing the 4 PM dose.



increasing the dose to 10 mg each time.



giving 10 mg at 8 AM and 5 mg at noon.



changing the dosing to 15 mg twice daily.

Nervousness and insomnia are the most common adverse effects and are usually controlled by reducing the dose or omitting the afternoon or evening dose.

### Question 67

2 / 2 pts

A 60-year-old woman is in the clinic for an annual well-woman examination. She has been taking alendronate (Fosamax) 10 mg daily for 4 years. Her last bone density test yielded a T-score of 2.0. Her urine NTx level today is 22. She walks daily. Her fracture risk is low. The primary care NP should recommend that she:



take a 1- to 2-year drug holiday.



change to 70 mg of alendronate weekly.



decrease the alendronate dose to 5 mg daily.



change to ibandronate (Boniva) 3 mg IV every 3 months.

The American Association of Clinical Endocrinologists recommends patients have a “drug holiday” after 4 to 5 years of bisphosphonate treatment if osteoporosis is mild and the fracture risk is low. The other options are all viable treatment regimens but are not appropriate in this case.

## Question 68

2 / 2 pts

The primary care nurse practitioner (NP) is seeing a patient who reports chronic lower back pain. The patient reports having difficulty sleeping despite taking ibuprofen at bedtime each night. The NP should prescribe:



diazepam (Valium).



metaxalone (Skelaxin).



methocarbamol (Robaxin).



cyclobenzaprine (Flexeril).

Cyclobenzaprine (Flexeril) is indicated for chronic low back pain and provides an added benefit of aiding sleep, which is a common problem among patients with back pain. The other medications are used for acute lower back pain.

## Question 69

2 / 2 pts

A patient reports smoking two or more packs of cigarettes per day and expresses a desire to quit smoking. The primary care NP learns that the patient smokes

heavily during breaks at work and during the evening but with no established schedule. The NP should recommend:



bupropion (Wellbutrin).



nicotine replacement gum or nasal spray.



a high-dose 24-hour nicotine patch.



intensive smoking cessation counseling.

Nicotine replacement gum and nasal spray both can be used when patients have cravings and are especially useful for patients who do not smoke at particular times. The patch is useful when patients smoke consistently throughout the day. Bupropion is not indicated. Intensive counseling is often necessary for patients who have difficulty stopping and have failed several times.

## Question 70

2 / 2 pts

A patient is seen in the clinic with a 1-week history of frequent watery stools. The primary care NP learns that a family member had gastroenteritis a week prior. The patient was treated for a UTI with a sulfonamide antibiotic 2 months prior. The NP should suspect:



*Clostridium difficile*-associated disease (CDAD).



viral gastroenteritis.



serum sickness reaction.



recurrence of the UTI.

Cases of CDAD have been reported 2 months after a course of antibiotics, and CDAD should be suspected in all patients who present with diarrhea after antibiotic use. Viral gastroenteritis is possible, but the possibility of CDAD must

be investigated. Serum sickness reaction is not usually associated with diarrhea and generally occurs within weeks of drug administration.

### Question 71

2 / 2 pts

A female patient has vaginal candidiasis and has taken a single dose of fluconazole without resolution of the infection. The primary care NP obtains a culture and should order:



oral ketoconazole.



griseofulvin for 4 weeks.



another dose of fluconazole.



**topical miconazole (Monistat).**

Topical miconazole is still recommended as the drug of first choice and should be given when oral fluconazole has failed. Fluconazole has been approved for single-dose treatment of vulvovaginal candidiasis, although the Centers for Disease Control and Prevention continues to recommend topical therapy with an imidazole derivative because of fluconazole-resistant candidiasis. Ketoconazole and griseofulvin are not recommended first-line treatments for vulvovaginal candidiasis. Another dose of fluconazole would not be effective if resistance is present.

### Question 72

2 / 2 pts

A patient reports difficulty falling asleep and staying asleep every night and has difficulty staying awake during the commute to work every day. The NP should:



suggest the patient try diphenhydramine first.



**perform a thorough history and physical examination.**



teach about avoiding caffeine and good sleep hygiene.



suggest melatonin and consider prescribing Ambien if this is not effective.

Before treating insomnia with drug therapy, it is important first to rule out any physiologic causes of a sleep disorder. The other interventions may be tried if no serious cause of the disorder is found.

### Question 73

2 / 2 pts

A patient who is newly diagnosed with schizophrenia is overweight and has a positive family history for type 2 diabetes mellitus. The primary care NP should consider initiating antipsychotic therapy with:



ziprasidone (Geodon).



olanzapine (Zyprexa).



risperidone (Risperdal).



chlorpromazine (Thorazine).

Many antipsychotics increase the risk of metabolic syndrome in patients. Ziprasidone does not have effects on weight. The other agents all increase the risk of weight gain and metabolic syndrome.

### Question 74

2 / 2 pts

A patient asks an NP about using an oral over-the-counter decongestant medication for nasal congestion associated with a viral upper respiratory illness. The NP learns that this patient uses loratadine (Claritin), a  $\beta$ -adrenergic blocker, and an intranasal corticosteroid. The NP would be concerned about which adverse effects?



Liver toxicity



Excessive drowsiness



Rebound congestion



Tremor, restlessness, and insomnia

β-Adrenergic blockers and monoamine oxidase inhibitors may potentiate the effects of decongestants, such as tremor, restlessness, and insomnia. Liver toxicity, excessive drowsiness, and rebound congestion are not known adverse effects of drug interactions.

### Question 75

2 / 2 pts

A patient has been taking paroxetine (Paxil) for major depressive symptoms for 8 months. The patient tells the primary care NP that these symptoms improved after 2 months of therapy. The patient is experiencing weight gain and sexual dysfunction and wants to know if the medication can be discontinued. The NP should:



change to a tricyclic antidepressant medication.



begin to taper the paroxetine and instruct the patient to call if symptoms increase.



tell the patient to stop taking the medication and to call if symptoms get worse.



continue the medication for several months and consider adding bupropion (Wellbutrin).

Once a patient achieves remission, a continuation phase of 16 to 20 weeks followed by a maintenance phase of 4 to 9 months should be carried out. Some responders, called apathetic responders, may have a decrease in most symptoms but continue to have lack of pleasure, decreased libido, and lack of energy. Bupropion can be added to therapy to treat these symptoms. Patients should not change medications during this phase, should not begin a drug taper, and should never stop the medication abruptly.