BNURS506 Quiz Answering

Term: Spring 2025
Module 4: Musculoskeletal & Neurologic Systems
Name: Student Q

#:	Your Answer	Feedback from Grader	Score
1	**What would you explain to the parent about this test and why she may have a different assessment than her child?** "Doctor just performed the Babinski reflex test. It's a normal part of the neurological exam. It's expected for babies under 1 years of age to spread their toes outward like that. It's a normal reflex called a positive Babinski sign. It shows that their nervous system is developing properly." " In adults and older children" this reflex disappears or stay brisk which is normal too, since their nervous system is matured. In adults, the toes curls down instead of spreading out." "The doctor is just making sure that baby nervous system is where it should be for their age." References: van Gijn J. (1995). The Babinski reflex. *Postgraduate medical journal*, *71*(841), 645–648. https://doi-org./10.1136/pgmj.71.841.645 Feedback: It was a very informative question. I forgot about the neonate assessments. Thank you for developing this question which helped me to refresh my knowledge about this reflex. The details of the question were clearly stated and easy to understand. I like to the point questions. Again, well done.	Grading Criteria: Identify Babinski test positive in infancy vs adulthood (6 pts) Explanation to parent easy to understand (2 pts) Mention maturation/myelination of nervous system (1 pt) Implication of positive test in adults (*) Proper APA formatting (1 pt) Thanks for the feedback! You did a good job calling out the difference in an adult exam vs an infant exam and in describing the etiology of the difference - the maturation of the nervous system. Your explanation was easy to understand for a non-medical professional. I am not removing points for anyone since I didn't specifically call it out, but it's important to know that while a positive Babinski is a good sign in babies, it is an ominous finding in adults. I am removing 0.5 points for lacking in-text citation, but otherwise great job!	9.5/ 10

3	**What is the most likely cause of Janes new symptoms? (Please give your rationale for why you chose the option you did)** ▪ **A.) Lithium toxicity** ▪ **B.) Tardive dyskinesia** ▪ **C.) Voluntary behavior** ▪ **D.) Drug-induced parkinsonism** **What treatment/medication changes should the nurse expect and why? (you don't have to go too in depth, 1-2 sentences is good)** **When a coworker hears the nurse and provider discussing the planned treatment/medication changes, they say, "I'm worried that what you're suggesting is going to cause Jane to hurt herself or someone else. Can't we just wait and see if it gets worse?" What could the potential long-term effects of not addressing Jane's new symptoms be?** The correct answer is Tardive dyskinesia which is an involuntary movement often exposer to "Dopamine receptor blocking agents" (Bashir&Jankovic,2020) and often involve face, mouth and tongue but later expands to motor and nonmotor features. These symptoms can occur even if the patient is unaware of them and can develop after months or years of treatment. Treatment changes: The nurse can expect a change in jane's antipsychotic medications, likely " Clozapine or Quetiapine" because of their lower risk of TD and have lower "dopamine receptor affinity." " Pimavanserin, a nondopaminergic inverse serotonin agonist, which is an antipsychotic approved for Parkinson disease psychosis that also can be used as an alternative, as an off-label treatment (Bashir&Jankovic,2020)." If jane's new symptoms are not addressed, TD can lead to irreversible and can affect her motor and nonmotor features. Stopping the Haldol and lithium can prevent neurological damage and improve her psychiatric symptoms, hopefully prevent her suicidal ideation or aggression.	Multiple Choice & Rationale: 4/4 Treatment & Rationale: 3/3 Long-term effects: 2/2 APA Format: 0.75/1 Rationale for Point Deduction APA Format: missing citation for quoted information in the 2nd paragraph You did a fantastic job answering this question! Also, you were the one of two people to discuss the fact that the medications with the lowest risk of TD are less potent dopamine blockers. One thing to note, though, is that all antipsychotics block dopamine receptors, and it's specifically the medication's potency as a dopamine D2 blocker that correlates to its risk of causing TD (higher potency D2 blocker = higher risk of TD).	9.75/ 10

	References: Bashir, H. H., & Jankovic, J. (2020). Treatment of Tardive Dyskinesia. *Neurologic clinics*, *38*(2), 379–396. Feedback: Diagnosis was easy to find given all the symptoms. Treatment plans are so broad. This article talks about all the newer medication that has less or no TD symptoms. Your scenario was well organized and made me think through the treatment plan and prevention in TD patient. I hope Jane did not have permanent symptoms.		
5	Based on the symptoms, Shaynenalyn is suffering from carpal tunnel syndrome which occurs when the median nerve is compressed and the level of the wrist, leading to sensory and motor disturbances in the hand and fingers. “Oedema, tendon inflammation, hormonal changes, and manual activity can contribute to increased nerve compression and sometimes cause pain, as in the case of tendon inflammation” (Padua et al.,2016). Suspected risk factors of carpal tunnel syndrome include diabetes mellitus, menopause, hypothyroidism, obesity, arthritis, use of oral contraceptives, CHF, alcoholism, smoking and vitamin d deficiency, pregnancy. When assessing for carpal tunnel syndrome, Tinel’s sign and Phalen’s maneuver are popular diagnostic tests. Tinel’s sign and Phalen’s maneuver , “ by percussion of the median nerve at the wrist or by forced compressive wrist posture for 1 min.” positive Phalen’s test if the symptoms reproduced like tingling, numbness or pain in the median nerve suggests CTS. Tinel’s sign when tapping over the carpal tunnel at the wrist to see if it reproduces the symptoms like tingling or pain, suggest positive. Getting their medical history and physical examination by checking their hand, wrist, arm, and neck for signs of CTS. Nerve conduction studies for further confirmation, if the symptoms are severe.	Great answers and reflection from your nursing school. You captured all the answers I was looking for.	10/ 10

	References: Padua, L., Coraci, D., Erra, C., Pazzaglia, C., Paolasso, I., Loreti, C., Caliandro, P., & Hobson-Webb, L. D. (2016). Carpal tunnel syndrome: clinical features, diagnosis, and management. *The Lancet. Neurology*, *15*(12), 1273–1284. Feedback: Well written scenario. It reminded me of my nursing school, when we were studying the musculoskeletal chapter. We would perform the Tinel's and Phalen's maneuver test on each other to see if we had the CTS.		
7	A 60-year-old patient comes to your clinic complaining of a sharp, shooting pain that starts in their lower back and radiates down their left leg to his ankle. He stated that the pain started a few days ago after lifting a heavy box. He also reports some tingling and numbness in their toes. **Which of the following is the MOST likely cause of this patient's complaint?** ▪ **a) Hip osteoarthritis** ▪ **b) Peripheral neuropathy** ▪ **c) Lumbar disc herniation with sciatic nerve involvement** ▪ **d) Meralgia paresthetica (lateral femoral cutaneous nerve entrapment)** The patient is experiencing lumber disc herniation with sciatic nerve involvement. The pain radiating down the leg along with tingling and numbness in the toes suggests nerve compression which is sciatic nerve compression. A herniated lumbar disc can press on the sciatic nerve, leading to the shooting pain, numbness and tingling sensations which this patient is experiencing after lifting a heaving box. This may have triggered the disc herniation.	I am glad you applied your current knowledge to answer the question. You got it! You forgot to select the right answer in the multiple choice question, but I'll consider it correct since you mentioned in details the signs and symptoms of a patient with disc herniation w/ sciatic nerve involvment. Congrats!	10/ 10

	Part 2 (6pts) **What specific symptom, if present in this case, would raise immediate concern for a medical emergency requiring immediate evaluation and potential surgical intervention and why?** Sciatica is diagnosed based on the patient's symptoms and findings on the assessments. A history of the leg pain worse than back pain or pain below the knee and associated symptoms such as tingling sensation, numbness and muscle weakness in the legs. Straight leg raise test is commonly used to predict sciatica caused by lumbar disc herniation. "Urinary retention and decreased tone of anal sphincter indicate cauda equina syndrome, which should prompt immediate referral"(Jensen et at., 2019). Surgery is indicated for serious bowel and bladder dysfunction or motor weakness. **References:** Jensen, R. K., Kongsted, A., Kjaer, P., & Koes, B. (2019). Diagnosis and treatment of sciatica. *BMJ (Clinical research ed.)*, *367*, l6273. **Feedback:** I appreciated the details. Well written scenario. I was able to apply my current knowledge to answer the questions.		
9	Based on Uncle's symptoms, he most likely has Parkinson's disease which is chacterized by slowness of movement, stooped posture, reduced facial expression, soft voice, muscle stiffness, reduced arm swing and resting tremor. Parkinson's disease is a progressive neurodegenerative disorder that primarily affects movement and is caused by the loss of dopamine producing neurons in the brain (Dauer&Przedborski, 2003). PD is usually diagnosed based on clinical features and physical exam. the presence of bradykinesia, rigidity, resting tremor and unsteady gait. there is no specific test for this, however MRI and CT scan may be used to rule out. Pharmacological treatment : Levodopa is typically used which is the precursor to dopamine. it is often combined with carbidopa to prevent the premature breakdown of levodopa outside the brain, allowing more of it to reach the brain. levodopa significantly improves motor symptoms. Dopamine agents like pramipexole or ropinirole are also used in the early stages to mimic dopamine's effects in the brain.	Good job with this! You answered all of the necessary components successfully. I dedicated 0.5 points because although you included one in-text citation, you did not include the other citations in your answers. Nice work overall, and thanks for the feedback!	9.5/ 10

	Physical therapy is another essential therapy which is most for maintaining mobility and flexibility. it can help address issues like rigidity, posture and balance problems. exercises that improve gait , balance and strength are frequently incorporated into treatment plan. References: Holden, A., Wilman, A., Wieler, M., & Martin, W. R. (2006). Basal ganglia activation in Parkinson's disease. *Parkinsonism & related disorders*, *12*(2), 73–77. Poewe, W., Seppi, K., Tanner, C. *et al.* Parkinson disease. *Nat Rev Dis Primers* **3**, 17013 (2017). Dauer, W., & Przedborski, S. (2003). Parkinson's disease: mechanisms and models. *Neuron*, *39*(6), 889–909. Feedback: I thought it was an easy topic, but I ended up getting into too much in detailed. more people are getting diagnosed with PD now than ever before.		
11	Explain to the primary nurse what the medics mean by FAST and LAMS. F: Face- is there any facial droops or weakness A: Arms- is there any arm numbness or tingling in hands, is there a drift downwards or able to lift their arms. S: are there any slurred speech? are they able to speak a simple sentence. T: Time- when was the last WKN. how much time has passed? Los Angeles Motor Scale (LAMS) facial droop: Absent 0 Present 1 Arm Drift : Absent. 0 drift down. 1 falls rapidly. 2 Grip Strength : Normal 0 weak grip 1 No grip. 2	Nice work! You touched on all the answers I was looking for. I deducted 0.25 points for no use of in-text citations. Thank you for the feedback!	9.75/ 10

	total score: (0-5) score of 4-5 is possible ELVO (emergent large vessel occlusion) and immediately patient needs to be transported to the nearest comprehensive Storke center. **Based on the patient's symptoms, describe the potential findings on CTA, localized to which artery?** Patient had symptoms on the left side of her body which means her CTA will show right hemispheres being affected with the stroke. Right middle cerebral artery (MCA) which controls motor function and facial movement on her left side of the body will show occlusion or stenosis. Possible thrombus or embolus obstructing blood flow in the artery. **What sort of treatment options (list two) might be considered for this patient?** Depending on when the symptom started, the treatment options that might be considered: IV tPA (Alteplase): given within 4.5 hrs. of symptom onset The main job of tPA is to dissolve the clot to restore blood flow 2. Mechanical thrombectomy It is used for large vessel occlusion. A catheter is used for this procedure to remove the clot and ideally done within 6-24 hrs. depending on imaging and patient criteria. References: Herpich, F., & Rincon, F. (2020). Management of Acute Ischemic Stroke. *Critical care medicine*, *48*(11), 1654–1663. Feedback: Great question and well-organized scenario too. On our unit, we care for stroke patients almost daily and see similar symptoms. Despite that, answering these questions really made me pause and think critically. It was a great exercise that required both clinical knowledge and thoughtful reasoning.		
13	**You are caring for a 14-year-old boy named Tony who recently had a cast applied to his right arm for a distal radial head fracture. Tony is**	Nailed it, nice work! Nursing assessments to rule out compartment syndrome include:	10/ 10

	complaining that their cast is too tight. What nursing assessments can you perform to rule out compartment syndrome? (8 points) To assess for compartment syndrome, the nurse should perform frequent neuro checks using the 6 p's 1. pain- assess for severe pain to the injury and not relieved by pain medications or rest 2. paresthesia- ask if tony feels numbness or tingling in the fingers or hand. 3. Pallor- check the color of the fingers; are they pale or dusky? 4. Paralysis- assess his ability to move the fingers and wrist. 5. Pulselessness- palpate redial and ulnar pulses in the affected arm or use doppler if not palpable 6. Poikilothermic- feel for temperature differences; the affected extremity may be cool to touch. Additional assessment includes checking the capillary refill. If the cap refill is >2 can be a sign of impaired perfusion . another assessment is to feel the area under and around the cast; is it tense, firm or swollen. **Tony's assessment is positive for compartment syndrome – you notify the provider and their cast is removed, but symptoms persist. What is the definitive treatment for compartment syndrome and why? (2 points)** The definitive treatment for compartment syndrome is a fasciotomy which is a surgical procedure involves cutting down the fascia surrounding the muscle compartments to relieve pressure, restore circulation and prevent permanent tissue and nerve damage.	- Evaluate for pain that is out of proportion to the injury, and/or unrelieved by analgesics and worsened by movement of Tony's fingers - Assess for numbness, tingling - Assess for motor weakness. - Pulse assessment is important but likely impeded by Tony's cast. - Cap refill of the fingers - Assess for swelling - Assess for changes in color/palor of the skin - Temperature: assess for coolness of the skin (poikilothermia) 8/8 If Tony's symptoms persist after removal or bi-valving the cast, the definitive treatment for compartment syndrome is emergent decompressive fasciotomy. In this procedure the fascia is surgically opened to relieve pressure in the affected limb/compartment, thus restoring perfusion and preventing irreversible damage. Untreated compartment syndrome can lead to muscle necrosis, permanent motor/sensory deficits, and loss of the affected limb. 2/2	

	References: Schmidt A. H. (2016). Acute compartment syndrome. *The Orthopedic Clinics Of North America*, *47*(3), 517–525. Feedback: This was a well-organized scenario that allowed me to apply my clinical knowledge. Although I don't work directly with orthopedic patients, I understand that compartment syndrome can occur in any patient experiencing compression. On our unit, for example, we frequently use transcutaneous radial band (TR band), which can sometimes cause discomfort and carry a potential risk for compartment syndrome if not properly monitored. This case helped reinforce the importance of neurovascular assessments in various clinical contexts.		
15	**What is the most likely diagnosis and what most likely contributed to this acute event, as mentioned in the patient's history?** The most likely diagnosis is acute gout arthritis, commonly known as gout. Since the patients presented with sudden onset of pain and swelling in the right great toe which is a classic sign of gout. Shiny, red, swollen joint, history of alcohol (beer) and organ meat (pork and liver) consumption which are high in purines. Labs shows neutrophilic leukocytosis which supports acute inflammation; normal serum urate can be expected during an acute flare. His flare up is mostly likely contributed to eating pork which is high in purine, alcohol consumption increases the uric acid and reduce its excretion, also possible dehydration reducing the renal clearance of uric acid. **Identify at least one medication considered as first-line therapy for the patient's condition and would likely be included in their treatment plan. Also include the rationale for giving this medication.**	#1: Correct diagnosis and correct identification of provoking factors mentioned in patient's history – 4/4 pts #2: Correct identification of medication – 2/2 pts #3: Correct identification of nonpharmacologic strategy to include in patient's education – 2/2 pts References: 0.5 pt In-text citations:0/0.5 pt	9.5/ 10

	NSAIDs-such as naproxen or indomethacin are considered first line for acute gout attacks. NSAIDS reduces the inflammation and pain by inhibiting prostaglandin synthesis. They are effective when given early in the attack and are usually continued until symptoms resolves. Other alternatives: Colchicine or corticosteroids may be used as well if NSAIDs are contraindicated. **Name at least one nonpharmacologic strategy to treat this condition that you can include when educating the patient.** Encourage increased hydration to help flush out uric acid. 2L at least or more of water. Diet modification: limit purine-rich foods (red meat, organ meats, shellfish and recently IG post, cauliflower and spinach also causes inflammation, they should be eaten in moderation), reducing alcohol especially beer due to yeast, reduce intake of sugar-sweetened drinks. Also educating the patient that even with normal uric acid levels during the flare, lifestyle modifications are crucial to prevent future attacks. References: Hainer, B. L., Matheson, E., & Wilkes, R. T. (2014). Diagnosis, treatment, and prevention of gout. *American Family Physician*, *90*(12), 831–836. Feedback: Great job explaining the scenario. You clearly connected the patient's symptoms which helped guide the diagnosis. I was able to find the appropriate resource to support your questions. Gout flare up often easy to recognize but the biggest challenge is helping patients to commit to the necessary lifestyle changes to prevent future attacks.	I took off 0.5 pts due to the absence of in-text citations, but great job on answering the questions and thank you for the feedback!	
17	**What injury did Gary sustain (name the injury pattern/classification for bonus!)?** Gary mostly likely sustained a closed mid-shaft tibial fracture, confirmed by x-ray. Tibia fractures are classified depending on the location of the	Thank you for such a detailed answer and description on the classification of fractures. Gary indeed suffered from a fracture! Specifically, he ended up sustaining an oblique femur fracture. I	10/ 10

	fracture, the pattern of the fracture and whether the skin and muscle over the bone is torn by the injury. “OTA/AO 42 classification help getting a good description and understanding of the fracture morphology” (Kojima&Ferreira, 2015). The most common types of tibial shaft fractures include Transverse fracture: the break is a straight horizontal line across the shaft of the tibia. Oblique fracture: is an angled diagonally across the bone, usually results from twisting or rotational injuries. Spiral fracture: the fracture line spirals around the shaft. Caused by twisting injury common in sports or high energy trauma Comminuted fracture: the bone is broken into three or more pieces. Usually due to high energy trauma such as a vehicle accident Open (compound) fracture: the bone breaks and protrudes through the skin or a deep wound exposes the bone. Associated with higher risk of infection, soft tissue damage and delayed healing. **Name at least two nonpharmacological ways you may help ease Gary’s pain (there are two specific nonpharmacological methods that are shown to be beneficial for this injury that I would ideally like you to put, but pain is a subjective experience, and some patients may prefer different approaches to reducing their pain, so feel free to be creative!).** Like many other injuries or inflammation of the limbs, elevation of the leg to help reduce swelling and pressure, improving comfort. Ice/cold application reduces inflammation and pain by causing vessels to constrict. Usually applied for 15-20 min at a time with a barrier to prevent skin damage.	did not specifically ask for location because that can be tricky with X-rays, especially since we aren’t radiologists. Some clues that would point to this being the femur would be the femoral head proximal to the injury, as well as the ischium. Great job in identifying the go-to nonpharmacological pain interventions of ice and elevation, with the added intervention of distraction. You also have accurately identified what IMN is! Thank you so much for your feedback, and I’m happy to hear you learned a lot through this question.	

	Distraction also helps with pain. Relaxation breathing or splint for immobilization. **To fixate Gary's injury, the provider obtained Gary's consent to perform an IMN. What is an IMN? (Just looking for the expanded/non-abbreviated name of the procedure, but feel free to talk about it more if you'd like)** IMN: intramedullary Nailing which is a surgical procedure used to stabilize long bong fracture. Involving inserting a metal rod into the marrow canal of the tibia. **References:** Kojima, K. E., & Ferreira, R. V. (2015). Tibial shaft fractures. *Revista Brasileira De Ortopedia*, *46*(2), 130–135. https://doi.org/10.1016/S2255-4971(15)30227-5 American Academy of Orthopaedic Surgeons. (n.d.). *Tibia (shinbone) shaft fractures.* OrthoInfo. https://orthoinfo.aaos.org/en/diseases--conditions/tibia-shinbone-shaft-fractures/ **Feedback:** Well-written scenario! This case study encouraged me to dive deeper into articles about closed fractures. I've never worked in orthopedics, so I had to do some extra research to answer the questions, but I learned a lot from the journal articles and web resources I found. Great job!		
19	**Upon assessment of John's right foot, you note an open sore that is red around the edges on the side of his pinky toe. It is hard to tell but the wound is deep enough you are concerned you can see bone. He has pedal edema 2+ on the right foot, and no edema on the left foot.**		**/ 10**

	His right foot is erythematous and warm to the touch. The patient reports that his foot is painful with palpation. **Based on the assessments, what do you suspect John has with his right foot? (2 pts)** Based on the assessment, John has diabetic foot ulcer with possible osteomyelitis. Given he is diabetic and PVD, poor wound healing, possible bone exposure, local signs of infection and fever. **2. What is the pathophysiology of this condition? (4 pts)** Diabetes leads to peripheral neuropathy and microvascular damage, reducing the body's ability to detect and heal wounds. PVD limits blood flow, especially to the lower extremities, impairing oxygen delivery and immune response to wounds. An open wound that goes untreated becomes a gateway for bacteria, leading to soft tissue infection and potentially osteomyelitis. Smoking further worsens blood flow and delays wound healing, increasing the risk of complications like gangrene or amputation. **3. What medications would you suspect would be administered for this patient? (2 pts)** **I**V antibiotics and pain management to treat the infection and pain from the wound. Depending on the organism growing doctor will consider the antibiotic. Usually, vancomycin or Zosyn are used for osteomyelitis at my institution. Further treatments may include increase in insulin and possible debridement **4. List 2 pieces of patient education that you would discuss with John surrounding this condition and management (1 pt per education piece).** Foot care education: inspecting feet daily for cuts, blisters or sores; keep feet clean and dry; wear proper fitting shoes to prevent pressure injuries. Smoking cessation: explaining how smoking worsens circulation and delays healing; offer resources or referrals to quit. **References:** Maffulli, N., Papalia, R., Zampogna, B., Torre, G., Albo, E., & Denaro, V. (2016). The management of osteomyelitis in the adult. *The Surgeon : Journal Of The Royal Colleges Of Surgeons Of Edinburgh And Ireland*, *14*(6), 345–360.		

	Feedback: This was a classic example of osteomyelitis. Many patients initially present with a non-healing wound that eventually progresses into a systemic infection. This case really highlights the importance of patient education. Despite the availability of resources, we continue to see a rise in unmanaged diabetes and related complication like infections and amputations. It reinforces the need for early intervention and consistent follow-up.		