

1 . The nurse is teaching the client who is scheduled For an outpatient EEG. Which instruction should the nurse include?

- A. Remove all hairpins before coming in for the EEG test.
- B. Avoid eating or drinking at least 6 hours prior to the test.
- C. Some hair will be removed with a razor to place electrodes.
- D. Have blood drawn for a glucose level 2 hours before the test.

ANSWER: A

- A. In an EEG, electrodes are placed on the scalp over multiple areas of the brain to detect and record patterns of electrical activity. Preparation includes clean hair without any objects in the hair to prevent inaccurate test results.
- B. The client should not be NPO since a usual glucose level is important for normal brain functioning.
- C. The scalp will not be shaved; the electrodes are applied with paste.
- D. There is no indication to have a serum glucose drawn before the test.

2. The client, who has type I DM, is scheduled for an MRI of the brain after an MVA. Which intervention should the nurse implement to prepare the client for the test?

- A. Make the client NPO for six hours before the MRI and hold the morning insulin (lose).
- B. Inform the client that the machine is noisy and that earplugs can be worn during the test.
- C. Explain that the extremity used for injection must remain straight for a few hours after MRI.
- D. Ensure that the serum BUN and creatinine levels are obtained and evaluated prior to the MRI.

ANSWER: B

- A. Clients undergoing positron emission tomography (PET) scans are made NPO and have insulin held, but not those undergoing MRI.
- B. Clients are given earplugs to wear while undergoing the test because the machine makes a loud clanging noise that is unpleasant.
- C. Clients undergoing cerebral angiography, not MRI, must be on bedrest with the extremity used for injection straight for several hours after the test.
- D. Serum BUN and creatinine levels to assess renal function are required before CT scans or other tests involving contrast material to prevent renal complications.

3. The nurse is caring for the client who is having difficulty walking. Which procedure should the nurse procedure to test the cerebellar function of the client?

- A. With the client's eyes shut. ask whether the touch with a cotton applicator is sharp or dull.
- B. Ask the client to close the eyes, then hold hands with palms up perpendicular to the body.
- C. Ask the client to grasp and squeeze, with each hand at the same time, the hands of the nurse.
- D. Have the client place the hands on the thighs, then quickly turn the palms up and then down.

ANSWER: D

- A. Detecting sharp or dull touch is a test for peripheral nerve function.
- B. Assessing for pronator drift is a test for muscle weakness due to cerebral or brainstem dysfunction.
- C. Assessment of hand grasps compares equality of muscle strength bilaterally.
- D. Repetitive alternating motion tests the client's coordination, an indicator of cerebellar function.

4. The nurse is assessing the client with a tentative diagnosis of meningitis. Which findings should the nurse associate with meningitis? Select all that apply.

- A. Nuchal rigidity
- B. Severe headache
- C. Pill-rolling tremor
- D. Photophobia
- E. Lethargy

ANSWER: A,B,D,E

- A. Irritation of the meninges causes nuchal rigidity (stiff neck).
- B. Irritation of the meninges causes severe headache.
- C. Pill-rolling tremors are associated with PD.
- D. Irritation of the meninges causes photophobia (light irritates the eyes).
- E. Lethargy, pathological state of sleepiness or unresponsiveness, indicates a decreased level of consciousness which is associated with meningitis.

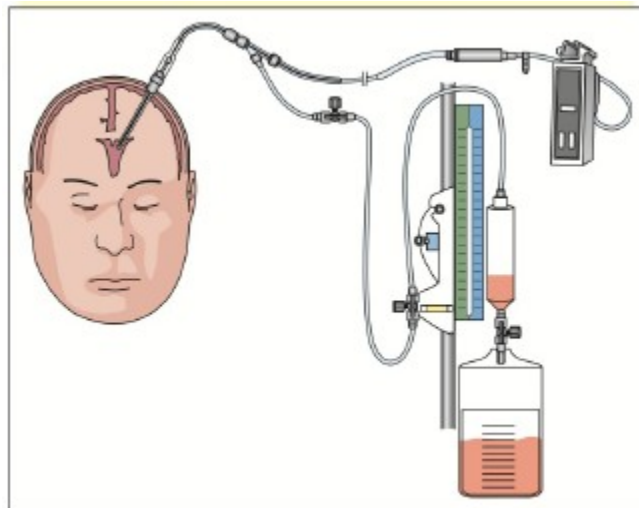
5. The client is at risk for septic emboli after being diagnosed with meningococcal meningitis. Which action by the nurse directly addresses this risk?

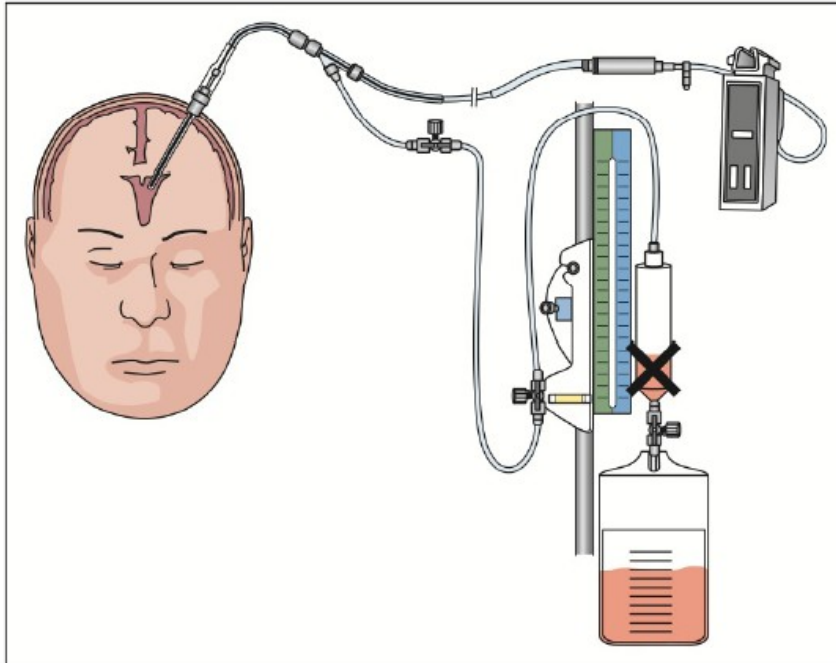
- A. Monitoring vital signs and oxygen saturation levels hourly
- B. Planning to give meningococcal polysaccharide vaccine
- C. Assessing neurological function with the Glasgow Coma Scale q2h
- D. Completing a thorough vascular assessment of all extremities q2h

ANSWER: D

- A. Monitoring VS is indicated but does not address the complication of septic emboli.
- B. Immunization with the meningococcal polysaccharide vaccine (Menomune) is a preventive measure against meningitis and would not be included in treatment.
- C. Frequent neurological assessments are indicated but do not address the complication of septic emboli.
- D. Frequent vascular assessments will detect vascular compromise secondary to septic emboli. Early detection allows for interventions that will prevent gangrene and possible loss of limb.

6. The client has an intraventricular catheter for ICP monitoring and CSF drainage based on the client's CSF pressure. The stopcock to the drain has been open, and the nurse is assessing the CSF output hourly. Place an X at the location where the nurse should check now for the CSF output for the past hour.





The smaller drainage container should be checked for the CSF drainage for the past hour. Once the volume is documented, the nurse closes the stopcock to the intraventricular catheter and opens the stopcock from the small drainage container into the larger bag. Once drained,

the stopcock to the larger bag is closed, and the stopcock from the intraventricular catheter to the small drainage container is opened.

7. The nurse in the ED documents that the newly admitted client is “postictal upon transfer.” What did the nurse observe?

- A. Yellowing of the skin due to a liver condition
- B. Drowsy or confused state following a seizure
- C. Severe itching of the eyes from an allergic reaction
- D. Abnormal sensations including tingling of the skin

ANSWER: B

- A. Jaundice and icterus are terms for yellowing of the skin.
- B. The client had experienced a tonicclonic seizure recently and is now in a state of deep relaxation and is breathing quietly. During this period the client may be unconscious or awaken gradually, but is often confused and disoriented. Often the client is amnesic regarding the seizure.
- C. Pruritus is a term for itching.
- D. Paresthesia is the term for abnormal sensations such as tingling and burning of the skin.

8. The client is prescribed a loading dose of phenytoin of 15 mg/kg IV for seizure activity, then 100 mg IV tid. The client weighs 198 lb. What dose in mg should the nurse administer for the loading dose of phenytoin? ----- mg IV (Record your answer as a whole number.)

ANSWER: 1350

198 lb = 90 kg; (198 ÷ 2.2 = 90 kg; 90 x 15 = 1350) The nurse should administer 1350 mg phenytoin (Dilantin).

9. A hospitalized client diagnosed with seizures has a vagus nerve stimulation (VNS) device implanted. The nurse determines that the VNS is working properly when making which observation?

- A. It stimulated a heartbeat when bradycardia occurred during a seizure.
- B. It defibrillated a lethal rhythm that occurred during the client's seizure.
- C. The client activates the VNS device to stop a seizure from occurring.
- D. The client activates the device at seizure onset to prevent aspiration.

ANSWER : C

- A. A VNS device does not stimulate the heart to beat as a pacemaker.
- B. A VNS device does not defibrillate the heart as an implantable cardioverter/defibrillator does.
- C. A VNS is a medical device that is implanted in the chest and stimulates the vagus nerve to control seizures unresponsive to medical treatment. Clients who experience auras before a seizure use a magnet to activate the VNS to stop the seizure.
- D. The device does not have an effect on the airway or secretions.

10. The client is in status epilepticus. Which interventions, if prescribed, should be included in this client's immediate treatment? Select all that apply.

- A. Administer dexamethasone intravenously.
- B. Give oxygen and prepare for endotracheal intubation.
- C. Obtain a defibrillator and prepare to use it immediately.
- D. Remove nearby objects to protect the client from injury.
- E. Administer lorazepam intravenously STAT.

ANSWER: B, D, E

- A. Anticonvulsant medications such as phenytoin (Dilantin), and not anti-inflammatory medications such as dexamethasone (Decadron), are administered IV to control seizure activity.
- B. Status epilepticus is a medical emergency. The client is at risk for brain hypoxia and permanent brain damage. The client needs additional oxygen, and intubation will secure the airway.
- C. Defibrillation is treatment for ventricular fibrillation, a lethal heart dysrhythmia.
- D. Care is taken to protect the client from injury during the seizure.
- E. Either lorazepam (Ativan) or diazepam (Valium) is administered initially to terminate the seizure because they can be administered more rapidly than phenytoin.

11 . The nurse is assessing the client following a closed head injury. When applying nailbed pressure, the client's body suddenly stiffens, the eyes roll up- ward, and there is an increase in salivation and loss of swallowing reflex. Which observation should the nurse document?

- A. Decerebrate posturing observed
- B. Decorticate posturing observed
- C. Positive Kernig's sign observed
- D. Seizure activity observed

ANSWER: D

- A. Decerebrate posture involves rigid extension of the arms and legs, downward pointing of the toes, and backward arching of the head.
- B. Decorticate posture involves rigidity, flexion of the arms toward the body with the wrists and fingers clenched and held on the chest, and the legs extended.
- C. A positive Kernig's sign is flexing the leg at the hip and then raising the leg into extension. Severe head and neck pain occurs.
- D. Body stiffening, eyes rolled upward, increase in salivation, and a loss of swallowing reflex are signs consistent with the tonic phase of a tonicclonic seizure. This phase is followed by the clonic phase with violent muscle contractions.

12. the client underwent a lumbar laminectomy with spinal fusion 12 hours earlier. Which nursing assessment finding indicates that the client has a leakage of CSF?

- A. Backache not relieved by narcotic analgesics
- B. 50 mL of serosanguineous fluid in the bulb drain
- C. Clear fluid drainage noted on the surgical dressing

D. Sudden spike in temperature to 101.3°F (38.5°C)

ANSWER: C

- A. Unrelieved back pain may be associated with another complication, not CSF leakage- A severe headache, rather than back pain, may be associated with CSF leakage.
- B. 50 mL of serosanguineous fluid in the bulb drain is a normal finding.
- C. Clear drainage on the surgical dressing is indicative of a CSF leak.
- D. The temperature elevation could indicate an infection.

13. The client has had recurrent episodes of low back pain. Which statement indicates that the client has incorporated positive lifestyle changes to decrease the incidence of future back problems?

- A. "I stoop and avoid bending and twisting when lifting objects."
- B. "I can walk farther if I wear my old comfortable shoes."
- C. "I can walk only on weekends but walk 5 miles each day."
- D. "I sit for 2 to 3 hours with my legs elevated for pain control."

ANSWER: A

- A. Stooping and avoiding bending and twisting motions when lifting objects lessen the likelihood of injury.
- B. The client should wear supportive shoes.
- C. The client should include regular daily exercise as a program (not excessive walking over 2 days on the weekend).
- D. Clients should avoid prolonged sitting or standing.

14. Spinal precautions are ordered for the client. Who sustained a neck injury during an MVA. The client has yet to be cleared that there is no cervical fracture. Which action is the nurse's priority when receiving the client in the ED?

- A. Assessing the client using the Glasgow Coma Scale (GCS)
- B. Assessing the level of sensation in the client's extremities
- C. Checking that the cervical collar was correctly placed by EMS
- D. Applying antiembolism hose to the client's lower extremities

ANSWER: C

- A. The nurse should determine the neurological status using the GCS, but this is not the priority.

- B. The nurse should assess sensation status at intervals to determine neurological injury progression, but this is not the priority.
- C. Maintaining the correct placement of the cervical collar will keep the client's head and neck in a neutral position and prevent further injury if a spinal fracture or SCI is present. Because ensuring that the cervical collar is correctly placed will prevent further injury, it is priority.
- D. Applying antiembolism hose is an intervention to prevent thromboembolic complications, but this is not the priority.

15. The nurse assesses the client, who was injured in a diving accident 2 hours earlier. The client is breathing independently but has no movement or muscle tone from below the area of injury. A CT scan reveals a fracture of the C4 cervical vertebra. The nurse should plan interventions for which problem?

- A. Complete spinal cord transection
- B. Spinal shock
- C. An upper motor neuron injury
- D. Quadriplegia

ANSWER: B

- A. A complete spinal cord transection results in no reflexes or movement distal to the injury. With a C4 injury, the client initially would have some difficulty breathing due to edema of the spinal cord that occurs above the level of the injury.
- B. The client is experiencing spinal shock that manifests within a few hours after the injury. Hypotension, flaccid paralysis, and absence of muscle contractions occur. Spinal shock lasts 7 to 20 days, and the SCI cannot be classified accurately until spinal shock resolves.
- C. An injury of the upper motor neuron results in spastic paralysis.
- D. Quadriplegia, now termed tetraplegia, is paralysis involving all four extremities.

16. The nurse learns in report that the client admitted with a vertebral fracture has a halo external fixation device in place. Which intervention should the nurse plan?

- A. Ensure the traction weight hangs freely
- B. Remove the vest from the device at bedtime
- C. Cleanse sites where the pins enter the skull
- D. Screw the pins in the skull daily to tighten.

ANSWER: C

- A. Neither traction nor weights are part of the halo device.

- B. The halo external fixation device includes a vest that is worn continuously and should not be removed. The neurosurgeon will discontinue it when the injury has stabilized and sufficient healing has occurred.
- C. A halo external fixation device is a static device that consists of a “halo” that is screwed into the skull by four pins. It is attached to a vest that the client wears. The device provides immobilization and stability to the spinal cord While healing occurs with or without surgical intervention. Care includes inspection and cleansing of the pin sites.
- D. The nurse should not tighten the pins. These are secured in the skull to maintain alignment of the cervical vertebrae. If loose, the nurse should contact the HCP for tightening.

17. The nurse is caring for the client with an SCI at the level of the sixth cervical vertebra. Which findings support the nurse’s conclusion that the client may be experiencing autonomic dysreflexia? Select all that apply.

- A. Blurred vision
- B. BP 198.1102 mm Hg
- C. Heart rate 150 bpm
- D. Extreme headache
- E. Sweaty face and arms

ANSWER: A,B,D,E

- A. Blurred vision results from the hypertension occurring with autonomic dysreflexia.
- B. Hypertension is a symptom of autonomic dysreflexia from overstimulation of the sympathetic nervous system (SNS).
- C. Bradycardia (not tachycardia) results from autonomic dysreflexia; the parasympathetic nervous system attempts to maintain homeostasis by slowing down the HR.
- D. Headache results from the hypertension occurring with autonomic dysreflexia.
- E. Sweating results from the sympathetic stimulation above the level of injury.

18. The nurse is assisting the client who sustained a C5 SCI to cough using the quad coughing technique. The nurse correctly demonstrates quad coughing with which actions? Select all that apply.

- A. Places a suction catheter in the client's oral cavity to stimulate the cough reflex
- B. Puts hands on the upper abdomen. has client inhale pushes upward during a cough
- C. Cups the hands and percusses the client's anterior, lateral, and posterior lung fields
- D. Hypcroxygenates the client by using a resuscitation bag to deliver 100% oxygen
- E. Elevates the head of the bed to a high Fowler's position if the client is sitting in bed

ANSWER: B,E

- A. Stimulating a cough with a suction catheter is not associated with the quad cough technique, and it may cause regurgitation.
- B. The nurse's hand placement and pushing upward during a cough help to overcome the impaired diaphragmatic function that occurs with a C5 SCI.
- C. Cupping the hands and percussing the lung fields is a technique to loosen secretions but is not the quad coughing technique.
- D. Hyperoxygenating the client is a measure to prevent hypoxia associated With suctioning but is not included in the quad coughing technique.
- E. Elevating the head of the bed will promote lung expansion, thus enabling a stronger cough.

19. The nurse's client with a T2 SCI is dysreflexic and has a BP of 170/90 mm 11g. Place the nurse's interventions in the order that these should be performed.

- A. Lower the end of the bed so feet are dependent.
- B. Remove elastic stocking and other constricting devices; assess below the level of injury.
- C. Elevate the 11013 to 90 degrees.
- D. Inform the HCP of the incident, measures taken, and client response.
- E. Perform digital removal of impacted stool (last BM found to be 10 days ago).
- F. Administer a pm prescribed sublingual nifedipine for continued elevated BP.
- G. Retake the blood pressure after being upright for 2 to 3 minutes.

ANSWER: C, A, B, G, F, E, D

C. Elevate the HOB to 90 degrees. This initial quick action may help lower the client's BP.

A. Lower the end of the bed so feet are dependent. Placing the feet lower than the head will help decrease blood return and may help lower the BP.

B. Remove elastic stocking and other constricting devices; assess below the level of injury. Anything constricting below the level of injury can be the stimulus that precipitates autonomic dysreflexia. The nurse can assess for other precipitating factors, such as a full bladder, while removing constricting devices.

G. Retake the BP after being upright for 2 to 3 minutes. Elevating the HOB, lowering the feet, and removing constricting devices may have lowered the BP. If not, further interventions are needed.

F. Administer a pm prescribed sublingual nifedipine for continued elevated BP. If the BP remains elevated, the prescribed antihypertensive medication, such as nifedipine (Procardia), should be given next to quickly lower the BP.

E. Perform digital removal of impacted stool (last BM found to be 10 days ago). Digitally removing stool impaction may cause a further spike in BP, so that should be completed after the BP medication is administered.

D. Inform the HCP of the incident, measures taken, and client response. This is last because a pro antihypertensive medication had already been prescribed. Care of the client is priority.

20. The female client with an incomplete T6 spinal cord transection asks the nurse for sexual health advice and the possibility of ever conceiving. Which statements by the nurse will be helpful to the client? Select all that apply.

- A. "You need to continue to use contraceptives if you do not wish to have children."
- B. "Unfortunately, your injury prevents you from being able to conceive children."
- C. "Because feeling is affected, it is not likely that you will be able to deliver a baby."
- D. "Sexual intercourse is generally prohibited because it can worsen your condition."
- E. "You can engage in sexual intimacy, but you may not be able to feel an orgasm."

ANSWER: A,E

- A. Although the client has an incomplete T6 SCI, the woman is still capable of becoming pregnant.
- B. The client with an incomplete T6 SCI is able to get pregnant.
- C. Although the client may not feel the onset of labor, she may still be able to deliver the baby vaginally or via cesarean section.
- D. Sexual intercourse is allowable and would not worsen the client's condition. The female may not be able to feel an orgasm.
- E. The client may not be able to feel an orgasm after an incomplete T6 SCI.

21 . The nurse reviews the chart of the client, who had a T12 SCI 12 years ago and is receiving baclofen through an intrathecal infusion pump. Which chart information in the exhibit is most important for the nurse to discuss with the HCP?

Tab 1	Tab 2	Tab 3
Assessment	Serum Laboratory Results	Prescribed Medications
• BP (mm Hg): Lying: 102/62 Standing 100/58 • Pulse: 100 bpm • Resp: 20 bpm • Temp: 100°F (37.8°C) • Exaggerated spasticity • Muscle rigidity • Tinnitus	• WBC 4900/mm³ • AST 15 units/L • Alkaline phosphatase 100 units/L • Glucose 140 mg/dL	• Polyethylene glycol 1 packet oral daily • Sennosides 2 tablet oral bid • Enoxaparin sodium 40 mg daily subq • Baclofen 800 mcg/day per pump • Sulfamethoxazole/Trimethoprim 1 tablet oral daily • Docusate sodium 100 mg oral bid • Magnesium citrate 1 bottle oral every other day • Oxybutynin 5 mg oral tid • Bisacodyl 10 mg supp every other day • Paroxetine 20 mg oral daily • Aspirin 81 mg oral daily

- A. Assessment findings
- B. Orthostatic hypotension
- C. Laboratory test results
- D. Prescribed medications

ANSWER: A

- A. Exaggerated spasticity, muscle rigidity, and tinnitus are adverse effects of baclofen (Lioresal) that the nurse should discuss with the HCP.

- B. The client had a minimal drop in BP from lying to standing and does not have orthostatic hypotension.
- C. The WBC and liver enzymes are WNL. The glucose is not significantly elevated and would not warrant notifying the HCP.
- D. All prescribed medications are appropriate for the client who has a T12 SCI.

22. The client with MS tells the nurse about extreme fatigue. Which assessment findings should the nurse identify as contributing to the client's fatigue? Select all that apply.

- A. Hemoglobin 9.5 g/dL and hematocrit is 31.8%
- B. Taking baclofen 15 mg 3 times per day
- C. Working 4 to 8 hours per week in the family business
- D. Stopped taking amitriptyline 8 weeks earlier
- E. Presence of a cardiac murmur at the tricuspid valve.
- F. Bilateral leg weakness noted when walking in room

ANSWER: A,B,D,E,F

- A. The lower-than-normal Hgb and Hct indicate anemia. Inadequate cell oxygenation contributes to fatigue.
- B. Baclofen (Lioresal), a skeletal muscle relaxant used to relieve spasms, has the adverse effects of drowsiness and fatigue.
- C. Working 4 to 8 hours per week is a limited number of hours and should not contribute to the client's fatigue.
- D. The client has stopped amitriptyline (Elavil), an antidepressant, and may be clinically depressed. Fatigue is a major symptom of depression.
- E. A tricuspid murmur indicates an incompetent cardiac valve, which will decrease the amount of oxygenated blood reaching the tissues.
- F. The increased energy expenditure with ambulation can increase fatigue.

23. The home-care nurse is counseling the client who has MS. The client is experiencing weakness, ataxia, intermittent adductor spasms of the hips, and occasional incontinence from loss of bladder sensation. Which self-care measures should the nurse recommend? Select all that apply.

- A. "Adductor spasms can be relieved by taking a hot bath."
- B. "If a muscle is in spasm, stretch and hold it, and then relax."
- C. "Rest first and then walk as able using a walker for support."
- D. "When walking, keep feet close together, legs slightly bent."
- E. "Set an alarm to remind you to void 30 minutes After fluid intake."

ANSWER: B,C,E

- A. Hot baths should be avoided; increasing the body temperature can exacerbate symptoms. Burns can occur with sensory loss associated with MS.
- B. A stretch—hold—relax routine is often helpful for relaxing the muscle and treating muscle spasms.
- C. Walking will help improve the gait, strengthen weakened muscles, and help relieve spasticity in the legs. If a muscle group is irreversibly affected by MS, other muscles can learn to compensate. A walker should be used for safety to help prevent falling.
- D. Widening the base of support increases walking stability, especially if ataxia (incoordination) is present; if feet are close together it increases the risk for a fall.
- E. Drinking fluids and then using an alarm to void 30 minutes later may be helpful in reducing incontinence from loss of bladder sensation.

24. The client diagnosed with Guillain-Barré syndrome is scheduled to receive plasmapheresis treatments. The client's spouse asks the nurse about the purpose of plasmapheresis. Which explanation is correct?

- A. "Plasmapheresis removes excess fluid from the bloodstream."
- B. "Plasmapheresis will increase the protein levels in the blood."
- C. "Plasmapheresis removes circulating antibodies from the blood."
- D. "Plasmapheresis infuses lipoproteins to restore the myelin sheath."

ANSWER: C

- A. Aquapheresis or dialysis, not plasmapheresis, will remove excess fluid from the blood.
- B. Plasmapheresis does not increase protein levels in the blood.
- C. Plasmapheresis is a procedure in which harmful antibodies are removed from the blood. During the procedure, blood is removed from the client, the plasma is separated, and blood cells without the plasma are returned to the client.
- D. Plasmapheresis does not involve infusing Lipoproteins.

25. The nurse is caring for the client experiencing Guillain-Barré syndrome (GBS). It is most important for the nurse to monitor the client for which complication?

- A. Autonomic dysreflexia
- B. Septic emboli
- C. Cardiac dysrhythmias
- D. Respiratory failure

ANSWER: D

- A. The client with SCI, not GBS, should be monitored for autonomic dysreflexia.
- B. The client who has bacterial meningitis should be monitored for septic emboli.
- C. Although the client with GBS should be monitored for cardiac dysrhythmias, it is most important to monitor for respiratory failure.
- D. It is most important for the nurse to monitor for respiratory failure. Ascending paralysis that occurs in GBS can affect the innervations of the muscles used in respiration, leading to respiratory failure.

26. The home health nurse evaluates the foot care of the dark-skinned African client who has peripheral neuropathy. Which client actions in providing foot care are appropriate? Select all that apply.

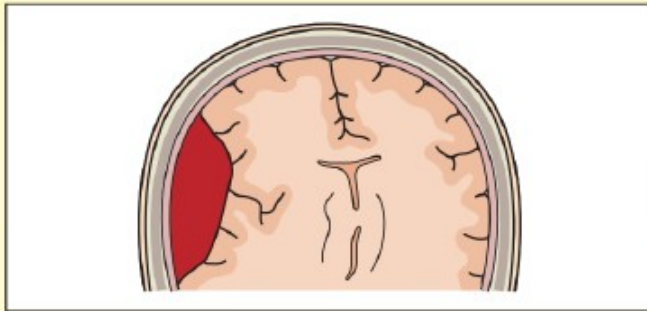
- A. Uses a mirror and visually inspects the feet on a daily basis
- B. Lotions the feet and legs daily, avoiding between the toes
- C. Goes barefoot when indoors to help dry and air out the feet
- D. Wears warm socks and boots when outside in cold weather
- E. Trims toenails weekly so they have a rounded contour
- F. Inspects the feet for redness and other signs of Inflammation

ANSWER: A,B,D

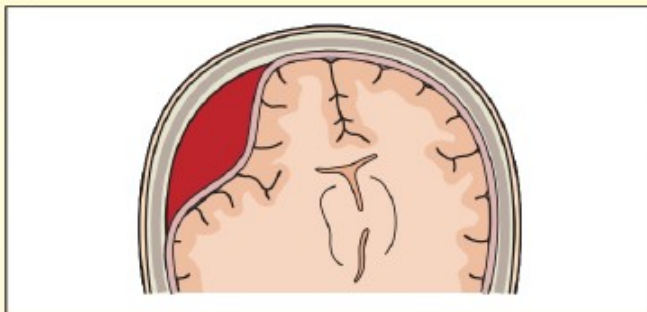
- A. Using a mirror allows for visual inspection of the bottom of the feet and between the toes for areas of skin breakdown.
- B. Keeping the skin adequately lubricated with lotion prevents drying and cracking. Lotion should not be applied between the toes because it increases moisture and the risk for infection.
- C. Clients should avoid going barefoot because this increases the risk for foot injury.
- D. Wearing appropriate clothing protects the skin from injury because sensation is diminished with peripheral neuropathy.
- E. Toenails should be trimmed straight across to avoid damaging the tissue, which is slow to heal in the presence of peripheral neuropathy.
- F. In a dark-skinned client, areas of inflammation may appear purplish-blue or violet rather than appearing reddened (erythematous).

27. The nurse plans to show the spouse of the client with a suspected epidural hematoma where the epidural hematoma occurs in the brain. Which illustration should the nurse select when teaching the client's spouse?

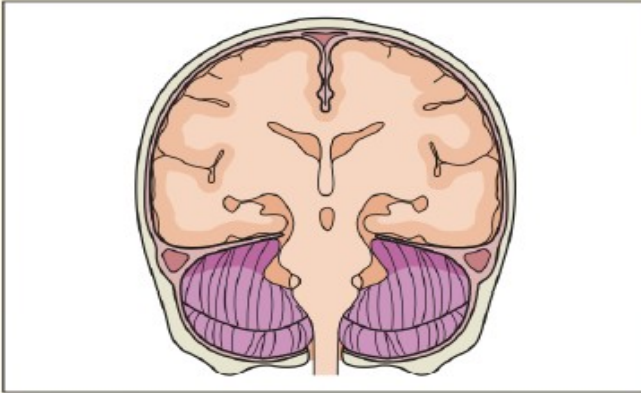
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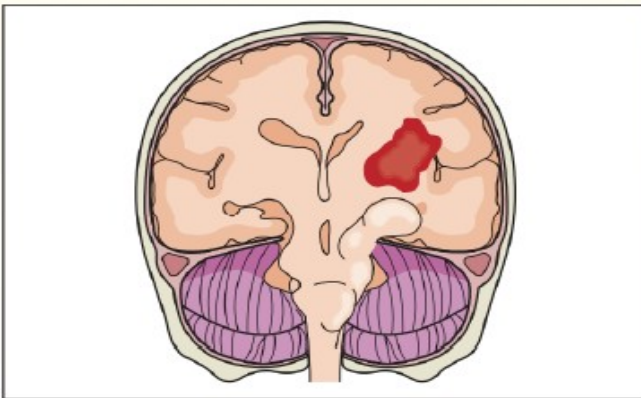
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3.



4.



ANSWER: B

- A. This illustration shows a subdural hematoma, which occurs below the dura-
- B. This illustration shows an epidural hematoma, which occurs between the skull and the dura.
- C. This illustration shows normal brain structures.
- D. An intracerebral hematoma occurs within the brain tissue and can result in brain herniation as shown in this illustration.

28. The nurse is caring for the client who has severe craniocerebral trauma. Which finding indicates that the client is developing D1?

- A. Blood glucose level at 230 mg/dL
- B. Urinary output 1500 mL over 4 hours
- C. Urine specific gravity at 1.042
- D. Somnolent when previously alert

ANSWER: B

- A. Elevated glucose levels are not associated with D1.

- B. The lack of ADH that occurs in DI results in excreting a large amount of pale, dilute urine.
- C. The urine of clients with DI is very dilute and therefore has a very low, not high, specific gravity.
- D. Decrease in level of consciousness is not directly associated with DI but rather with craniocerebral swelling or bleeding from the trauma.

29. The nurse is administering mannitol IV to decrease the client's ICP following a craniotomy. Which laboratory test result should the nurse monitor during the client's treatment with mannitol?

- A. Serum osmolarity
- B. White blood cell count
- C. Serum cholesterol
- D. Erythrocyte sedimentation rate (ESR)

ANSWER: A

- A. Mannitol (Osmitol), an osmotic diuretic, increases the serum osmolarity and pulls fluid from the tissues, thus decreasing cerebral edema postoperatively. Serum osmolarity levels should be assessed as a parameter to determine proper dosage.
- B. The WBC count is not affected by mannitol.
- C. Serum cholesterol is not affected by mannitol.
- D. ESR is not affected by mannitol.

30. The nurse is caring for the client who, 6 weeks after an MVA, was diagnosed with a mild TBI. Which information in the client's history of the injury should the nurse associate with the TBI? Select all that apply.

- A. The client has had no episodes of vomiting after the accident.
- B. The client remembers events before and right after the accident.
- C. The client has had headache and dizziness daily since the accident.
- D. The client has difficulty concentrating and focusing while at work.
- E. The client lost consciousness momentarily at the time of the injury.

ANSWER: C,D,E

- A. The client with mild TBI usually experiences symptoms commonly associated with mild concussion, such as vomiting.
- B. The client with mild TBI usually experiences amnesia and is unable to recall events regarding the accident.
- C. Recurrent problems with headache and dizziness are the most prominent symptoms of mild TBI.

- D. Cognitive difficulties, including inability to concentrate and forgetfulness, occur with mild TBI.
- E. At the time of the accident, the person with mild TBI may experience a loss of consciousness for a few seconds or minutes.

31 . The nurse is implementing interventions for the client who has increased ICP. The nurse knows that which result will occur if the increased ICP is left untreated?

- A. Displacement of brain tissue
- B. Increase in cerebral perfusion
- C. Increase in the serum pH level
- D. Leakage of cerebrospinal fluid

ANSWER: A

- A. If untreated, increased ICP causes a shift in brain tissue and can result in irreversible brain damage and possibly death.
- B. ICP compresses structures within the cranium and leads to a decrease in cerebral perfusion, not increased perfusion.
- C. ICP compresses structures within the cranium and leads to acidosis; the pH level is decreased in acidosis.
- D. Leakage of CSF could occur if there were an opening in the subarachnoid space that could occur with trauma, but there is no indication that the increased ICP is due to trauma.

32. The client, who had a stroke, follows the nurse's instructions without problems, but an attempt to verbally respond to the nurse's question was garbled. The nurse should identify that the client has which type of aphasia?

- A. Receptive aphasia
- B. Global aphasia
- C. Expressive aphasia
- D. Anomic aphasia.

ANSWER: C

- A. With receptive aphasia (Wernicke's aphasia or fluent aphasia) the Client would hear the voice but would be unable to comprehend the meaning of the message.
- B. Global aphasia is a combination of receptive and expressive aphasia. The client would have difficulty speaking and understanding words and would not be able to read or write.
- C. The nurse should identify that the client has expressive aphasia (Broca's aphasia or non-fluent aphasia). The client is able to

comprehend and responds appropriately. The client may attempt to speak but has difficulty communicating with the correct words.

- D. With anomic aphasia, the client would have word—finding difficulties; this client does not verbalize.

33. The client who has expressive aphasia is having difficulty communicating with the nurse. Which action by the nurse would be most helpful?

- A. Position the client facing the nurse
- B. Enunciate directions very slowly
- C. Use gestures and body language
- D. Ask the client to point to needed objects

ANSWER: D

- A. Having the client face the nurse will not aid the client in expressing his or her needs.
- B. The nurse's slow enunciation of directions will not aid the client in expressing his or her needs.
- C. Using gestures and body language will not aid the client in expressing his or her needs.
- D. Asking the client to point to needed objects would be most helpful when the client is having difficulty communicating with the nurse.

34. The client, who has a deteriorating status after having a stroke, has a rectal temperature of 102.3°F (39.1°C). Which should be the nurse's rationale for initiating interventions to bring the temperature to a normal level?

- A. A normal temperature will strengthen the client's immune system.
- B. A hypothermic state may increase the client's chance of survival.
- C. A normal temperature will decrease the Glasgow Coma Scale score.
- D. Hyperthermia increases the likelihood of a larger area of brain infarct.

ANSWER: D

- A. A normal temperature does not strengthen the immune system.
- B. Although hypothermia may increase the client's chance for survival, the question is asking for the rationale for bringing the temperature to a normal level.
- C. hyperthermia, not a normal temperature, is associated with lower scores on the Glasgow Coma Scale.

- D. The nurse should initiate temperature reduction measures because a temperature elevation in the client poststroke can cause an increase in the infarct size. This may be due to the increased oxygen demand with hyperthermia and peripheral vasodilation that decreases cerebral perfusion.

35. The nurse is caring for the client who had a stroke affecting the right hemisphere of the brain. The nurse should assess for which problem initially?

- A. Right hemiparesis
- B. Expressive aphasia
- C. Poor impulse control
- D. Tetraplegia

ANSWER: C

- A. A stroke affecting the right hemisphere may produce left, not right hemiparesis. Motor fibers in the brain cross over in the medulla before entering the spinal column.
- B. This client may or may not have aphasia because the center for language is located on the left side of the brain in 75% to 80% of the population; this client had a stroke involving the right hemisphere. Even though the client may have expressive aphasia, it is more important to assess for poor impulse control due to the risk for injury.
- C. The client with a stroke affecting the right side of the brain often exhibits impulsive behavior and is unaware of the neurological deficits. Poor impulse control increases the client's risk for injury.
- D. Tetraplegia (quadriplegia) is associated with an SCI; tetraplegia usually does not occur from a stroke.

36. The client, diagnosed with an ischemic stroke, is being evaluated for thrombolytic therapy. Which assessment finding should prompt the nurse to withhold thrombolytic therapy?

- A. Brain CT scan results show no bleeding.
- B. Had a serious head injury four weeks ago.
- C. Has a history of type 1 diabetes mellitus.
- D. Neurological deficits started 2 hours ago.

ANSWER: B

- A. A negative CT scan is a criterion for administering the thrombolytic therapy.

- B. Contraindications to thrombolytic therapy for the client with an ischemic stroke include a serious head injury within the previous 3 months. This would put the client at risk of developing serious bleeding problems, specifically cerebral hemorrhage.
- C. History of type 1 DM is not a contraindication for thrombolytic therapy.
- D. The onset of neurological deficits Within 3 hours is a criterion for administering thrombolytic therapy.

37. The client being monitored while receiving tissue plasminogen activator (tPA) following an ischemic stroke opens both eyes spontaneously, mumbles inappropriate words in response to orientation questions, has no ability to move any extremities, and has decerebrate posturing in response to nailbed pressure. Based on the chart illustrated, what is the client's Glasgow Coma Scale (GCS) score? ----- GCS score (Record your answer as a whole number.)

Glasgow Coma Scale		
Category	Score	Response
Eye Opening	4	Spontaneous
	3	To speech
	2	To pain
	1	None
Best Verbal Response	5	Oriented
	4	Confused
	3	Inappropriate words
	2	Incomprehensible
	1	None
Best Motor Response	6	Obeys commands
	5	Localizes to pain
	4	Withdraws from pain
	3	Abnormal flexion
	2	Extension
	1	None

ANSWER: 9

Spontaneous eye opening is scored as 4; the best verbal response of inappropriate words is scored as 3, and the best motor response of decerebrate posturing is scored as 2.

38. An unconscious client has left-sided paralysis. Which intervention should the nurse implement to best prevent foot drop?

- A. Ensure that the feet are firmly against the footboard.
- B. Use pillows to elevate the legs and support the soles.
- C. Perform range of motion to the legs and feet daily.
- D. Apply a foot boot brace, 2 hours on and 2 hours off.

ANSWER: D

- A. Pressure exerted on the soles of the feet when placed firmly against the footboard can impair circulation and lead to skin breakdown.
- B. Pillows provide inadequate support to prevent plantar flexion (foot drop).
- C. Performing ROM daily helps to maintain muscle tone, but it is inadequate to prevent plantar flexion when the client is in bed.
- D. Applying a foot boot brace provides good support to prevent foot drop. Removing and reapplying it every two hours allows for pressure reduction and promotes circulation.

39. The nurse is caring for the client who has limited intake due to dysphagia following an ischemic stroke. Which serum laboratory result should the nurse review to verify that the client is dehydrated?

- A. Elevated serum creatinine
- B. Elevated blood urea nitrogen
- C. Decreased hemoglobin
- D. Decreased prealbumin

ANSWER: B

- A. The serum creatinine is elevated with renal insufficiency or renal failure.
- B. The BUN is elevated when the client is dehydrated due to the lack of fluid volume to excrete waste products.
- C. The Hgb is decreased with blood loss or anemia from nutritional deficiencies, not with dehydration.
- D. A decreased prealbumin indicates a nutritional deficiency.

40. The client has right homonymous hemianopia following an ischemic stroke. The nurse asks the NA to help the client with meals knowing that this problem may result in which client response?

- A. Tendency to fall to the contralateral side
- B. Eating food on only half of the plate
- C. Using the silverware inappropriately
- D. Choking when swallowing any liquids

ANSWER: B

- A. Tendency to fall to the contralateral side would be a concern if the client were weak or paralyzed.
- B. Homonymous hemianopia (hemianopsia) is a visual field abnormality that results in blindness in half of the visual field in the same side of both eyes. It results from damage to the optic tract or occipital lobe.
- C. Using the silverware inappropriately is a concern if the client has agnosia.
- D. Choking when swallowing any liquids is a concern if the client has dysphagia.

41 . The nurse is caring for the client with a leaking cerebral aneurysm- What is the earliest sign that would indicate to the nurse that increased ICP may be developing?

- A. Change in pupil size and reaction
- B. Sudden drop in the blood pressure
- C. Experiencing diminished sensation
- D. Change in the level of consciousness

ANSWER: D

- A. Pupillary changes may occur with ICP as it progresses, but they are not an early Sign of developing ICP.
- B. A drop in BP is not directly associated with neurological deterioration. A BP with a wide pulse pressure is a late Sign of increased ICP.
- C. Diminished sensation may occur with increased ICP, but it is not the earliest sign.
- D. A change in the level of consciousness is the first sign of neurological deterioration and is often associated with the development of increased ICP.

42. The experienced nurse is instructing the new nurse on subarachnoid hemorrhage. The nurse evaluates that the new nurse understands the information when the new nurse makes which statements? Select all that apply.

- A. "Subarachnoid hemorrhage is often associated with a rupture of a cerebral aneurysm."
- B. "Subarachnoid hemorrhage occurs during sleep and is noticed when the client awakens."
- C. "The client experiencing a subarachnoid hemorrhage may state having a severe headache."
- D. "Tissue plasminogen activator (tPA) should be given to treat a subarachnoid hemorrhage."
- E. "A subarachnoid hemorrhage often results in the cerebrospinal fluid appearing bloody."

ANSWER: A, C, E

- A. A subarachnoid hemorrhage is usually caused by rupture of a cerebral aneurysm.
- B. Ischemic stroke in older adults, not a subarachnoid hemorrhage, often occurs during sleep when circulation and BP decrease.
- C. Irritation of the meninges from bleeding into the subarachnoid spaces causes a severe headache.
- D. Thrombolytic therapy with tPA lyses clots and is contraindicated in subarachnoid hemorrhage.
- E. Bleeding into the subarachnoid space will cause the CSF to be bloody.

43. The nurse is caring for the older adult client with normal pressure hydrocephalus (NPH). Which treatment measure should the nurse anticipate?

- A. Carotid endarterectomy
- B. Ventriculoperitoneal shunt
- C. Insertion of a lumbar drain
- D. Anticonvulsant medications

ANSWER: B

- A. A carotid endarterectomy involves removal of plaque from the carotid artery.
- B. NPH is treated with the placement of a permanent shunt in a lateral ventricle of the brain to the peritoneal cavity. The excess CSF drains into the peritoneal cavity.

- C. A lumbar drain can be used to remove CSF with disorders that increase CSF in the subarachnoid space in the lumbar area; this does not remain permanently.
- D. Anticonvulsant medications are used to treat seizures.

44. The client, undergoing testing for a possible brain tumor, asks the nurse about treatment options. The nurse's response should be based on knowing that treatment of a brain tumor depends on which factors? Select all that apply.

- A. How rapidly the tumor is growing
- B. Whether the tumor is malignant or benign
- C. Cell type from which the tumor originates
- D. Where the tumor is located within the brain
- E. The client's age and type of insurance

ANSWER: A,B,C,D

- A. Surgery, radiation therapy, and/or chemotherapy may be used to treat a slowly or rapidly growing tumor.
- B. Surgery, radiation therapy, and/or chemotherapy may be used to treat a benign or malignant tumor.
- C. Surgery, radiation therapy, and/or chemotherapy may be used to treat tumors of different cell types.
- D. The tumor's location in the brain may affect whether surgery is an option or whether the surgical approach with radiation therapy and/or chemotherapy is used to treat the tumor.
- E. Comorbid conditions, not age, may be determining factors in treatment options. The type of insurance is irrelevant to treatment unless treatment is experimental.

45. The nurse is monitoring clients for development of a brain abscess. Which client would be the nurse's lowest priority for monitoring for a brain abscess?

- A. Client with endocarditis
- B. Client with idiopathic epilepsy
- C. Client who had a liver transplant
- D. Client with meningitis

ANSWER: B

- A. The client with endocarditis has an infective process within the body's circulation and is at risk for septic emboli, which could progress to a brain abscess.

- B. The client who has idiopathic epilepsy has the lowest risk of developing a brain abscess because epilepsy from an unknown cause does not have the risk factors of an active infectious process or an impaired immune system.
- C. The client with the liver transplant is at risk for brain abscess because immunosuppressant medications depress the immune system.
- D. The client with meningitis has an infective process in close proximity to the brain and should be monitored for a brain abscess.

46. The client with PD has a new surgically implanted DBS. After the stimulator is operational, which criterion should the nurse use to evaluate that the DBS is effective?

- A. The client has cogwheel rigidity when moving the upper extremities.
- B. The client has a decrease in the frequency and severity of tremors.
- C. The client has less facial pain and converses with more facial expression.
- D. The client no longer experiences auras or a severe frontal headache.

ANSWER: B

- A. Cogwheel rigidity, a symptom of PD, is interrupted muscular movement and is not treated with the DBS.
- B. DBS is a treatment used for intractable tremors associated with PD. The electrical current interferes with the brain cells initiating the tremors.
- C. Severe facial pain is associated with trigeminal neuralgia, not PD. The DBS will not affect facial expression.
- D. Auras are unusual sensations experienced before a seizure occurs and are not associated with PD.

47. An older adult with PD is prescribed levodopa and carbidopa. What information should the nurse include when teaching the client and spouse?

- A. The client has an increased risk for falls.
- B. The client should stop taking multiple vitamins.
- C. The medication should not be taken with food.
- D. The medication has very few adverse effects.

ANSWER: A

- A. When first taking levodopa/carbidopa (Sinemet), the client is likely to experience dizziness and orthostatic hypotension due to the dopamine

agonist properties. The client and spouse must be alerted about the increased risk for falls.

- B. Levodopa/carbidopa can be taken with multiple vitamins.
- C. Levodopa/carbidopa can be taken with food to decrease GI upset.
- D. There are many, not few, adverse effects associated With levodopa/carbidopa, including involuntary movements, anxiety, memory loss, blurred vision, and mydriasis.

48. The client with muscle weakness asks the nurse during the initial assessment if the symptoms suggest “Lou Gehrig’s” disease. Which is the nurse’s most appropriate response?

- A. “Muscle weakness can occur from working too much. Avoid thinking the worst.”
- B. “Tell me what has you thinking that you might have Lou Gehrig’s disease.”
- C. “Have you been having trouble remembering things along with this weakness?”
- D. “That is a good question. We will be doing tests to figure out what is going on.”

ANSWER: B

- A. There is no information that the client is working too much. Telling the client to avoid thinking the worst belittles the client’s concern.
- B. This is the most appropriate response because it focuses on the client’s concern, encourages verbalization, and solicits more information.
- C. ALS (Lou Gehrig’s disease) is a degenerative disease that affects the motor system and does not have a dementia component; thus, a question about memory is inappropriate.
- D. This response does not take the client seriously and does not address the client’s concern.

49. The nurse assessed the client newly diagnosed with G. Which finding should the nurse recognize as being unrelated to the diagnosis?

- A. Drooping eyelids
- B. Slurred speech
- C. Weak lower extremities
- D. Circumoral tingling

ANSWER: D

- A. Ptosis (drooping eyelids) is a sign of muscle weakness often seen with MG.
- B. If the muscles involved with speech are weak in the client with MG, the client may exhibit slurred speech.
- C. Clients with MG may demonstrate weakness in the lower extremities.
- D. Numbness around the mouth is not associated with muscle weakness but could be indicative of a calcium deficiency or some other problem.

50. After receiving report, the nurse working on the step-down neurological unit begins care for four clients. Prioritize the order in which the nurse should plan to assess the four clients.

- A. 78-year-old who underwent evacuation of a chronic subdural hematoma 24 hours earlier and is recovering
- B. 30-year-old who was diagnosed with viral meningitis 2 days earlier and wants to talk with the HCP
- C. 24-year-old who had been unconscious at the scene of an MVA and is being admitted from the ED for observation
- D. 40-year-old with Guillain-Barré who is currently receiving a third bedside plasmapheresis treatment being administered by another nurse.

ANSWER: C, A, B, D

C. 24-year-old who had been unconscious at the scene of an MVA and is being admitted from the ED for observation. The nurse should assess the newly admitted client first to determine whether there are changes in level of consciousness and any early signs of increased ICP.

A. 78-year-old who underwent evacuation of a chronic subdural hematoma 24 hours earlier and is recovering. This client should be assessed next because the client is postoperative day 1, but stable.

B. 30-year-old who was diagnosed with viral meningitis 2 days earlier and wants to talk with the HCP. This client has a self-limiting condition and likely wants to be discharged; thus, he or she should be assessed third. The client with the Guillain-Barré is receiving a plasmapheresis treatment; another nurse would be giving the treatment at the bedside, so this client should be assessed last.

D. 40-year-old with Guillain-Barré who is currently receiving a third bedside plasmapheresis treatment being administered by another nurse. This client can be assessed last because another nurse is in the room with the client administering the plasmapheresis treatment.