M_PTQ_CEN (500+ Questions) - Quiz Questions with Answers

1.

A forty-year-old female presents to the emergency department (ED) complaining of chest pain. After triaging the client, obtaining vital signs including a blood pressure of 90/46, and establishing an adequate airway, what is the next most important intervention for this client?

registering the patient into the system

ordering serum blood laboratory tests

placing the client on a cardiac monitor, administering oxygen, and obtaining an electrocardiogram (EKG)

giving a sublingual nitroglycerin tablet for the immediate relief of pain

Explanation:

A family member can register the patient into the system, blood tests must be done but can be done after the EKG, and, although nitroglycerin is an appropriate intervention for pain, the low blood pressure may need evaluation before choosing to give nitroglycerin. The appropriate intervention is to place the client on a cardiac monitor, give oxygen to decrease cardiac workload, and obtain an EKG to immediately evaluate the heart. The ED is a controlled setting where a physician should be readily available to look at the client, evaluate the cardiac monitor, and interpret the EKG to determine further interventions.

2.

What is the physical consequence of any cardiac dysrhythmia that causes the need for an intervention?

there is no physical consequence unless pain is involved

there is a decrease in cardiac output that directly relates to the hemodynamic status of the client

it can increase blood pressure

it does not affect the airway

Explanation:

Dysrhythmia of any type causes a decrease in cardiac output. The emergent treatment intervention is directly related to the stability of the client's blood pressure, heart rate, and breathing ability. The other selections are incorrect.

3.

Which of the following is NOT true in the management of a sexual assault victim?

many victims do not wish to report a rape to law enforcement

many victims blame themselves or their actions for inviting sexual assault

the hospital has discretion not to report the incident if the patient does not wish to do so

chain of custody must be maintained by written record and time for all transfers of evidence

Explanation:

Nursing procedures for a sexual assault victim are complex and usually require special training to become a sexual assault nurse examiner (SANE) or sexual assault forensic examiner (SAFE). Providing psychological support and reassuring the victim that she is not responsible play a major role. Evidence collection must be done delicately and thoroughly and specimens (e.g., semen, blood, pubic hair, oral swabs) stored in paper bags or special containers (rape kits); avoid plastic bags because they may enhance bacterial or fungal contamination. Transfer of potential evidence must be recorded as to person and time; there are usually special forms for sexual assault cases that must be submitted along with potential evidence. While hospitals are nearly always required by law to report the incident and turn over the examination report and specimens to law enforcement, the patient may refuse to speak to authorities (around 40% demur according to a recent study).

4.

Which of the following is effective in the management of posterior epistaxis?

pinching the nose to stop the blood flow

topical vasoconstrictors such as phenylephrine

silver nitrate or electric cautery

insert a Merocel nasal sponge or Nasostat epistaxis nasal balloon

Explanation:

Nosebleeds (epistaxis) are quite commonly seen in the emergency setting and are usually divided into anterior and posterior, depending on the anatomic site of the bleeding. Infection, trauma, foreign bodies, or coagulation deficiency may be the cause; however, the most common cause is nose picking. Anterior nosebleeds usually arise in the most vascular portion of the nasal mucosa (Kiesselbach plexus) and are usually acute. Nasal pinching and nose blowing followed by nasal speculum examination is the usual diagnostic procedure. If the bleeding is anterior, topical vasoconstrictors, nasal packing with petrolatum-iodoform gauze (or newer commercial products), or local cauterization with silver nitrate or electricity are appropriate treatments. For posterior nosebleeds, more common in elderly patients and usually more

serious, a posterior nasal pack with a Merocel nasal sponge or Nasostat epistaxis balloon is appropriate. Sometimes surgical ligation of the bleeding vessel is required.

5.

A 2-year-old is brought to the emergency department with mild fever, persistent restlessness, crying, and pulling his left ear. He has had a cold for about a week. Examination of the ear reveals a distorted light reflex and slight bulging of the tympanic membrane. What is the proper diagnosis and treatment?

otitis externa and antibiotics

otitis media and antibiotics

otitis media and myringotomy

acute labyrinthitis and antivertigo drug

Explanation:

Ear infections may cause severe and persistent pain, especially in children in the 6-month to 3-year age group and are a frequent cause of emergency department visits. Loss or distortion of the light reflex and bulging of the tympanic membrane are cardinal signs of otitis media, usually caused by bacteria such as Streptococcus influenza or Haemophilus influenza. Sinusitis and purulent rhinitis may accompany the otitis. Antibiotics to cover these organisms, topical warmed otic analgesics, and antipyretics are the usual treatment modalities. Otitis externa or swimmer's ear also causes otalgia and frequently follows swimming in contaminated water or a foreign body in the ear. Keeping the ear dry and using otic analgesics and antibiotics are indicated. Ear plugs while swimming or ear drying agents after swimming or showering are the usual preventive measures. Myringotomy is a surgical procedure to keep the middle ear draining in chronic otitis media and hopefully prevent such complications as mastoiditis, meningitis, ruptured tympanic membrane, or permanent hearing loss. Labyrinthitis is an infection of the inner ear and usually causes severe vertigo, most commonly in adults.

6.

A 45-year-old man presents with severe pain after being struck in the face during an auto accident while he was driving. He also reports some numbness of the upper lip. His face is bruised and somewhat distorted and edematous with nasal and periorbital swelling and subconjunctival hemorrhages. A CT scan of the facial structures is obtained. What is the likely diagnosis?

orbital blowout fracture

zygomatic fracture

mandibular fracture

middle third maxillary fracture (Le Fort II)

Explanation:

Maxillary fractures are divided into three subtypes, lower third (Le Fort I), middle third (Le Fort II), and upper (Le Fort III). Plain radiographs with a Waters view or panoramic imaging have been used for diagnosis but CT has largely supplanted these techniques. This patient's symptoms and clinical findings are typical for a Le Fort II maxillary fracture. This fracture involves the central maxillary, nasal, and ethmoid bones, and nasal rhinorrhea suggests skull fracture with CSF leak. Orbital and zygomatic fractures often are found together after facial trauma. In zygomatic fractures, there is pain in the lateral cheek and an inability to close the mouth. There is swelling and crepitus over the zygomatic arch. Orbital blowout fractures cause a rise in orbital pressure, blowing out the weak orbital floor with prolapse of the orbital contents into the maxillary sinus. Periorbital edema, subluxation of the lens, dysconjugate gaze, and enophthalmos are some of the signs of an orbital blowout, often caused by a baseball or golf ball's impact on the orbit. Mandibular fractures may cause airway obstruction by forcing the tongue posteriorly. Malocclusion is a typical finding. Paresthesias of the lower lip, broken teeth, and sublingual hematoma are also observed in this type fracture.

7.

A 65-year-old Asian man comes to the emergency department complaining of headache, severe pain in his right eye, and nausea of several hours' duration. The pupil is slightly dilated and fixed to

light and the globe is very hard. He also notes halos of light and a diminished peripheral vision. Left eye exam is normal. What is the likely diagnosis?

open-angle glaucoma

acute angle-closure glaucoma

occlusion of the central retinal artery

retinal detachment

Explanation:

Acute angle-closure glaucoma refers to blockage of the anterior chamber angle near the root of the iris. It is more common in Asian and Eskimo patients. Acute blockage of the aqueous humor results in elevated intraocular pressures, and pressures above 60 mm Hg may cause damage to the eye structures and impair circulation to the retina. It is a significant cause of blindness worldwide. Treatment includes topical miotics and beta-blockers, carbonic anhydrase inhibitors, and immediate ophthalmologic consultation. Open-angle glaucoma occurs when there is impaired drainage of the aqueous humor from the anterior chamber with a resultant rise in intraocular pressure, although the drainage angle at Schlemm canal remains open. It is the second leading cause of blindness. Central retinal artery occlusion causes sudden painless blindness; the patient may give a history of transient attacks of amaurosis in the affected eye. Retinal detachment occurs when the retina tears and allows vitreous humor to separate the retina and choroid. The patient usually complains of flashing lights, floaters, or a "curtain effect" due to a diminution in the retinal light perception.

8.

A 12-year-old presents with a Grade 3 hyphema, after being hit with a baseball at a game. Which of the following are true?

patch and shield will not be necessary

Motrin should be given for pain

aminocaproic acid should be given to prevent secondary hemorrhage

system or topical antibiotics are a cornerstone of treatment for hyphema

Explanation:

Hyphemia refers to bleeding in the anterior chamber of the eye. It is usually caused by blunt trauma, which leads to rupture of the blood vessels of the iris and bleeding into the clear aqueous humor. Clotting of the blood may occur, called "eight-ball hyphema." Pain, photophobia, and blurred vision are the usual symptoms. Hyphema is more easily detected in those with light-colored eyes than in those with darker hues. Rebleeding occurs in about 30% of patients up to 14 days after the original bleed. Limitation of activity, hospitalization, and bed rest are all treatments but there is controversy about which is the best. Children and African American patients are a highest risk for secondary hemorrhage so aminocaproic acid should be given. Patch and eye shield are commonly used. NSAIDs should be avoided to reduce rebleeding. Antibiotics are not needed for hyphema especially if caused by blunt trauma as in this case.

9.

A patient has been diagnosed with temporomandibular disorder. The nurse should include all the following in the patient's discharge instructions EXCEPT

use NSAIDS to relieve pain and inflammation.

use ice and warm compresses several times a day.

use a night mouthguard when able.

do not stretch or use jaw until pain subsides.

Explanation:

TMB is jaw pain caused by dysfunction of the temporomandibular joint (TMJ) and the supporting muscles and ligaments. It may be precipitated by injury, such as whiplash, or grinding or clenching of the teeth, stress, or arthritis. Treatment includes ice pack to jaw area for 10 minutes followed by jaw stretching exercises and warm compress for 5 minutes 3 to 4 times daily, avoidance of heavy chewing by eating soft foods and avoiding hard foods, such as raw carrots and nuts, NSAIDs to relieve pain and inflammation, night mouthguard, and referral for dental treatments to improve bite as necessary.

10.

A patient presents with a dental avulsion. The tooth came out 1 hour ago. All of the following correctly relate to reimplanting a tooth EXCEPT

soak the tooth in Hank solution for 30 minutes.

only permanent teeth are reimplanted.

after reimplantation, apply splinting material over implanted teeth and 2 adjacent teeth on both sides.

you cannot reimplant a tooth that has been out for more than 30 minutes.

Explanation:

Dental avulsions are complete displacement of a tooth from its socket. The tooth may be reimplanted if done within 1 to 2 hours after displacement, although only permanent teeth are reimplanted, not primary. Teeth can be transported from accident site to the ED in Hank solution, saline, or milk. Cleanse tooth with sterile NS or Hank solution, handling only the crown and avoiding any disruption of fibers. If tooth has been dry for 20 to 60 minutes, soak tooth in Hank solution for 30 minutes before reimplantation. If tooth has been dry for more than 60 minutes, soak tooth in citric acid for 5 minutes, stannous fluoride 2% for 5 minutes, and doxycycline solution for 5 minutes prior to reimplantation. Remove clot in socket and gently irrigate with NS. Place tooth into socket firmly, cover with gauze, and have patient bite firmly on

gauze until splinting can be applied. Apply splinting material and mold packing over implanted tooth and 2 adjacent teeth on both sides (encompasses 5 teeth).

11.

A 45-year-old man presents with an eyelid laceration that is vertical and through the orbicularis oculi muscle. The patient is stable. The nurse should be prepared to

Do wound irrigation with NS prior to suturing.

Assist the physician with suturing with a 6-0 or 7-0 coated nylon suture.

Apply ophthalmic topical antibiotic in place of a dressing.

Transfer the patient to a facility that has an ocular plastic surgeon.

Explanation:

Usually only superficial horizontal lacerations are sutured in the ED. As this is a vertical laceration through the muscle in a stable patient, they should be transferred, as serious injuries should be referred to ophthalmologists or ocular plastic surgeons. Treatment includes local anesthesia (supra- or infraorbital), wound irrigation with NS prior to suturing, suturing with 6-0 or 7-0 coated or plain nylon suture (to be removed in 3 to 5 days), using care to avoid suturing into globe, and ophthalmic topical antibiotic in place of dressing.

12.

Which of the following is NOT associated with a vascular migraine headache?

family history of migraine

diffuse pain associated with muscular contraction

unilateral, throbbing headache

prodromal aura

Explanation:

Headaches, especially migraines, are a very common complaint in emergency department patients. Tension headaches tend to be diffuse with skeletal muscular contraction of the head and neck and be associated with numerous underlying conditions. Vascular migraines are often unilateral with a severe throbbing quality but may become diffuse. About 12% of the US population has experienced migraines and 70% of those have a family history. Classic migraines (about 15%) are preceded by an aura, usually visual (scintillating scotomata, tunnel vision), but almost any neurologic dysfunction may occur (e.g., transient hemiparesis or paresthesias). Nausea, vomiting, and photophobia are common. Common migraines are not preceded by an aura and may be more diffuse. Migraines may be triggered by a variety of specific and nonspecific factors, including environmental (e.g., bright light, heat, sudden changes in barometric pressure), dietary (e.g., alcohol, certain cheeses, chocolate), stress, or cyclical estrogen levels. Those without a history of migraine may require CT or MRI scanning to exclude intracranial disorders, such as bleeding, stroke, or tumor.

13.

A 64-year-old client presents to the ED complaining of shortness of breath and fatigue for two days. An initial EKG shows a non-q-wave myocardial infarction (previously called a non-transmural MI). Which of the following would NOT be true about this type of MI?

ST depression is visible on the ECG

peak CK levels are usually reached in about 12-13 hours

the coronary occlusion is usually complete

reinfarction is common

Explanation:

With non-q-wave MIs, ST depression is usually visible on the ECG, but there are no abnormal q waves. With this type of MI, the coronary occlusion is usually incomplete (in about 70%) and many will re-infarct. Peak CK levels will usually be reached in about 12-13 hours.

14.

A 75-year-old man has a history of several episodes of transient right-sided arm and hand weakness lasting an hour or two but with full recovery. He is diabetic and hypertensive and is taking medication for both conditions. This time the episode does not resolve and he is taken to the emergency department some 2 hours after the onset of symptoms. He is awake and able to answer questions and give a medical history. His chest is clear and no bruits are heard over the carotids. There is drift of the right arm on examination and his speech is slightly garbled. His blood pressure is 160/95 mm Hg and his pulse is irregular at 80 beats per minute. A CT of the brain reveals a small left-sided occlusion in a branch of the middle cerebral arterial circulation without hemorrhage. What should be the next step in his management?

start nitroprusside to reduce his blood pressure to normal

begin fibrinolytic therapy with alteplase (Activase)

begin warfarin

neurosurgical consultation for carotid endarterectomy

Explanation:

This patient had several transient ischemic attacks prior to his clear-cut signs of a stroke, shown to be nonhemorrhagic in nature. Such strokes may be caused by local thrombosis, especially in arteriosclerotic vessels, or by emboli arising in the carotid artery (usually at the bifurcation of the internal and external vessels) or the heart, most often in atrial fibrillation patients with clots in the atrial appendage. Because this patient arrived in the emergency

department within 3 hours from the onset of symptoms, the current recommendation is to begin fibrinolytic therapy with recombinant tissue plasminogen activator (r-TPA). Some recent studies indicate benefit from this therapy may be achieved up to 4.5 hours after the onset of symptoms. Blood pressure management in stroke patients is tricky. Most would agree with slow reduction if the value is greater than 220 systolic or 120 diastolic or the stroke is hemorrhagic in nature. For patients treated with a fibrinolytic agent, significantly elevated blood pressure should be lowered to prevent reperfusion problems. If noninvasive carotid scanning shows marked stenosis, neurosurgical consultation for endarterectomy or angioplasty with stent placement is reasonable. Subsequent warfarin treatment may be appropriate if atrial fibrillation is present.

15.

Which of the following best describes status epilepticus?

a seizure that starts in one part of the body but there is no loss of consciousness

a seizure that starts in one part of the body and spreads to others with loss of consciousness

consecutive seizures without regaining consciousness

seizure associated with automatism such as lip smacking or facial grimacing

Explanation:

Seizures are caused by abnormal neuronal function in the brain with excessive or over-synchronized neuron discharge. They are usually caused by some underlying anatomic (e.g., brain tumor) or metabolic (e.g., hypoglycemia, hyponatremia) abnormality. Partial seizures begin in a specific body part and are limited to one hemisphere of the brain. There may be loss of consciousness (complex seizure) or not (simple partial seizure). Seizures that begin in one area and progress to others in an orderly fashion are termed Jacksonian. Temporal lobe seizures are characterized by automatism and are often preceded by olfactory or auditory aura. Status epilepticus refers to a succession of tonic-clonic seizures without regaining consciousness in between or a single seizure that lasts more than 30 minutes and does not respond to conventional therapy. It is a medical emergency, and intravenous sedation, oxygen (with or without intubation), and anticonvulsant drugs are given. If these measures fail,

anesthesia is sometimes employed. Naloxone, dextrose 50%, or thiamine may be given for suspected opioid overdose, hypoglycemia, and alcohol withdrawal (delirium tremens).

16.

Which of the following cranial nerves controls facial movements, lacrimation, taste, and salivation?

III (oculomotor)

IV (trochlear)

VI (abducens)

VII (facial)

Explanation:

Cranial nerves originate in the brainstem and are subject to a variety of traumatic, infectious, degenerative, and metabolic abnormalities. They may be motor, sensory, or both. There are 12 pairs, numbered by Roman numerals and/or the anatomic name. The oculomotor nerve (III) innervates most of the extraocular eye muscles and also controls lid elevation and pupillary constriction as well as eye movements. The trochlear (IV) innervates the superior oblique muscle, responsible for downward inner gaze. The abducens (VI) innervates the lateral rectus muscle, responsible for lateral gaze. The facial nerve (VII) is responsible for facial movement such as eye closure or smiling as well as lacrimation, salivation, and taste. Damage to this nerve by infection, trauma, or idiopathic (often called Bell palsy) results in unilateral facial droop, inability to smile or whistle, and diminished eye closure and tear production. Most cases recover.

17.

A 24-year-old woman is brought to the emergency department, after an ATV accident. The patient's neurologic status, including the Glasgow Coma Scale, is quickly evaluated. Eye response is opening

eyes in response to pain. Verbal response is incomprehensible sounds. Her motor response is withdrawal in response to pain. What is her score on the Glasgow Coma Scale?

7

8

9

10

Explanation:

The Glasgow Coma Scale is a useful and rapid method of determining level of consciousness in comatose patients, regardless of the cause. The scale is divided into 3 major subgroups: eye opening, best motor response, and best verbal response with point scores for individual responses. This patients GCS score would be 8, using the below scale for calculation.

Eye opening	*4: Spontaneous.*
	3: To verbal stimuli.
	2: To pain (not of face).
	1: No response.
Verbal	*5: Oriented.*
	4: Conversation confused, but can answer questions.
	3: Uses inappropriate words.
	2: Speech incomprehensible.
	1: No response.
Motor	*6: Moves on command.*
	5: Moves purposefully respond pain.
	4: Withdraws in response to pain.

3: Decorticate posturing (flexion) in response to pain.

2: Decerebrate posturing (extension) in response to pain.

1: No response.

Injuries/conditions are classified according to the total score: 3-8 Coma; ≤ 8 Severe head injury; 9-12 Moderate head injury; 13-15 Mild head injury.

18.

A knowledge of the circulation to the brain is important in evaluating a patient with neurologic symptoms or signs. The anterior circulation to the brain is supplied by

internal carotid arteries.

vertebral artery.

basilar artery.

external carotid arteries.

Explanation:

The anterior blood supply to the brain is derived from the internal carotid arteries, which split off from the common carotids at about the level of the jawbone. The carotid arteries then supply the posterior communicating artery to the circle of Willis and the anterior and middle cerebral arteries. This anterior circulation supplies most of the cerebral hemispheres, the basal ganglia, and the diencephalon. The posterior circulation is formed by the merger of the two vertebral arteries into the basilar, which then divides into the two posterior cerebral arteries. This posterior circulation supplies the occipital lobes, cerebellum, part of the temporal lobes, the spinal cord, and the brainstem. The anterior circulation supplies about 80% of the blood to the brain while the posterior supplies about 20%. Knowledge of the circulatory pathways assists in determining the location of a lesion. For example, an obstruction of the posterior circulation is likely to cause brainstem symptoms (nausea, vertigo and balance, respiratory or cardiac

abnormalities), while anterior circulation obstruction is more likely to cause hemiparesis and abnormalities of speech.

19.

A 28-year-old HIV-positive man arrives at the emergency department with a history of intermittent fevers, headache of several weeks, and increasing confusion. Which procedure is likely to give the most accurate diagnosis?

CT of the brain

lumbar puncture (LP)

blood cultures

magnetic resonance angiography (MRA)

Explanation:

Fever, headache, confusion, and neck stiffness are signs and symptoms of meningitis. This possibility must be addressed quickly, especially in an HIV-positive individual who is subject to numerous opportunistic infections. A lumbar puncture with culture, chemistry, and inspection of the cerebrospinal fluid (CSF) is most likely to rule in or rule out meningitis. Many neurologists would recommend doing a CT scan of the brain first to rule out brain abscess or other mass lesion that might cause herniation of the brain due to rapid decrease in the intracranial pressure. If this is the case, a neurosurgical consultation should be obtained to get CSF because an LP is contraindicated. Blood cultures may be valuable if sepsis accompanies the meningitis, and brain angiography (MRA or intravascular) may be helpful in distinguishing a mass lesion, but the diagnostic procedure of choice is examination of the CSF.

20.

A 25-year-old woman presents with tingling of the extremities for several weeks and weakness in both lower extremities so that walking is difficult. These symptoms started soon after a flu-like

illness and have progressed to date. On exam there is bilateral weakness in the lower extremities with decreased deep tendon reflexes. What is the most likely diagnosis?

cerebrovascular accident (CVA)

viral meningitis

Guillain-Barré syndrome

myasthenia gravis

Explanation:

This woman presents with typical history and symptoms of Guillain-Barré syndrome, an idiopathic ascending paralysis, most often in the age range of 20 to 30 years. It frequently follows a respiratory or gastrointestinal infection, and decreased myelin is found at the spinal nerve roots and peripheral nerves. The paralysis may ascend to the diaphragm and intercostal muscles, requiring intubation and ventilatory support. There were many cases in the 1970s in those receiving influenza immunizations. The disorder is thought to have an autoimmune basis, and plasmapheresis with or without immunoglobulin administration may hasten recovery. It is a leading cause of nontraumatic paraplegia but the disease is relatively rare. Recovered patients may require considerable rehabilitation. Her symptoms and age are inconsistent with a stroke, although one may occur in young people because of an aneurysm rupture or bleeding from an arteriovenous malformation. Viral meningitis does not cause bilateral paraplegia but may be excluded by LP and CSF exam. Myasthenia gravis also occurs in young adults, mostly women, and usually presents with increased fatigue and ocular symptoms such as ptosis and diplopia and weakness in the jaw or facial muscles.

21.

Early signs of increased intracranial pressure (ICP) include the following EXCEPT

abnormal reflexes.

headache.

slurred speech.

sluggish pupillary light reflex.

Explanation:

Increased ICP often follows a traumatic brain injury but may be present in other conditions such as a mass lesion in the brain. It is usually considered a medical emergency because elevated pressure may diminish cerebral blood supply and also predispose to herniation. Cerebral perfusion pressure is calculated by subtracting the ICP from the mean arterial pressure. A value of 50 mm Hg or greater is required for adequate delivery of oxygen and nutrients. As the ICP rises, there is cerebral vasodilation and increase in systolic pressure in order to compensate. Headache, slurred speech, and a sluggish pupillary light response are characteristic of early increased ICP. In addition, confusion and restlessness, nausea and vomiting, and impaired strength and sensation may occur. As the ICP continues to rise, there is continuing decline in the level of consciousness, diminished brainstem reflexes, motor posturing (flexion or extension), fixated pupil(s), projectile vomiting, and abnormal reflexes, such as the extensor plantar reflex (Babinski sign).

22.

Which of the following is the most accepted method of reducing elevated ICP?

hyperventilation

mannitol intravenous bolus

mannitol continuous intravenous drip

hypotonic saline

Explanation:

There are several ICP monitoring devices, including the intraventricular catheter, subarachnoid screw, epi-or subdural sensor and intraparenchymal insertion. The current indication for treatment is an ICP greater than 20 mm Hg for more than 5 minutes. Sedation with midazolam or lorazepam (Ativan) and, increasingly, propofol (Diprivan) is usually indicated. Bolus mannitol is a preferred treatment because of its osmotic and neuroprotective properties but continuous infusion may be harmful and is not recommended. Hypertonic (not hypotonic) saline 3% to 10% is being used more frequently, especially in children, because it has both osmotic effects and may increase mean arterial pressure (MAP). Hyperventilation, used for many years in the treatment of increased ICP, has now been demoted in priority because it may reduce cerebral blood flow without reducing ICP.

23.

A young man is hit on the head with a blunt object in a street mugging. He was briefly unconscious and has now arrived at the emergency department complaining of a severe headache and a dilated pupil on the side of the injury. As he is being examined, he becomes more comatose. He is stabilized and taken for a CT exam of the head and neck. What is the most likely finding?

epidural hematoma

subdural hematoma

intraventricular hemorrhage

cervical spine injury

Explanation:

Direct trauma to the head is a frequent cause of brain hemorrhage with or without skull fracture. An epidural hematoma, bleeding between the skull and the dura mater, may be due to bleeding from the middle meningeal artery with a rapid hematoma formation. This is a true medical

emergency because the morbidity and mortality rate is high, more than 50%. The brief lucid period followed by a comatose state is typical but does not always occur. Immediate surgical intervention is preferred for large hematomas while some smaller ones may be managed conservatively. Bleeding into the subdural space, between the dura and arachnoid meningeal layers, may be acute, subacute, or chronic. The bleeding is from ruptured bridging veins in the subdural space. While the acute form produces immediate neurologic signs, and often loss of consciousness, the subacute form (48 hours to 2 weeks postinjury) causes a slower progression of neurologic signs. Intraventricular hemorrhage is less common with acute trauma and is more likely to result from a ruptured aneurysm or arteriovenous malformation in a young person. Cervical spine injury must be ruled out in many cases of head trauma but does not cause cerebral bleeds.

24.

Which task would NOT be performed initially by the ED nurse when a client presents with chest pain?

initiate monitoring and interpret EKG rhythm strips

assess defibrillator for proper functioning

auscultate heart sounds

order a low-salt diet for the client

Explanation:

The client should be kept on a nothing-by-mouth (NPO) status when presenting with chest pain until it is certain that surgery is not immediate. A low-salt diet would not be ordered from the ED. The other tasks should be performed as part of the preparation for any patient with chest pain.

25.

A 17-year-old high school football player was knocked unconscious for about a minute after a vigorous tackle during a game. On recovering consciousness, he was somewhat confused and complained of mild nausea and headache. Both of these resolved within a few minutes. He was examined by the trainer and team doctor. They did not find any neurologic deficits. He wants to go back into the game. How should this player be managed?

send him back into the game after a brief rest

bench him for the game but allow him to practice the following week

hospitalize him for observation and CT scanning

no athletics with continued observation for neurologic signs and gradual return to school and the team

Explanation:

This young man has sustained what used to be called a concussion but now the preferred terminology is mild traumatic brain injury (MTBI). This may be caused by a direct trauma to the head or an acceleration-deceleration injury. It usually causes a brief period of unconsciousness followed by a variety of physical, cognitive, or emotional symptoms, or sleep disturbance. Most of these patients do not need hospitalization but do require observation for persistent or new neurologic signs and symptoms. No participation in athletics is permitted until all these disappear. Current thinking is that there is some neurochemical and axonal damage that leads to the postconcussive syndrome. Most authorities recommend a period of brain rest after MTBI with a gradual return to work or school and especially athletics.

26.

All of the following are appropriate measures in stabilizing a patient with a suspected cervical spine injury EXCEPT

a four-person team is optimal.

strap the patient to the backboard at the shoulders, hips, and proximal to the knees.

do not attempt to remove a helmet.

a rigid cervical collar is applied by one person while the leader maintains in-line head position.

Explanation:

Stabilization of a patient with suspected trauma to the cervical spine is a very common emergency requirement after falls and motor vehicle accidents. The ideal team consists of four persons. A leader maintains the head and neck in-line by use of fingers under the mandible. Gross neurologic assessment can be obtained by asking the patient, if alert, to wiggle his fingers and toes and to respond to light touch on arms and legs. One assistant then applies a rigid cervical collar of the correct size to the neck of the patient. The patient is then straightened and rolled onto a rigid backboard as a unit by two assistants on one side of the patient. The patient is then strapped to the backboard at the shoulders, hips, and proximal to the knees. His head should be stabilized further with head blocks or towel rolls. Many active sports (e.g., bicycling, in-line skating, hockey, football) require helmets that must be removed to ensure stability of the cervical spine. This should be done by two people with one maintaining in-line stability and the other removing the helmet.

27.

A Hare traction splint is appropriate for which of the following fractures?

mid-shaft fracture of the femur

distal fracture of the tibia

fracture of the fibula

fracture of the hip

Explanation:

Extremity fractures are among the most common injuries seen in emergency departments. Immobilization is mandatory for most extremity, hand, or foot fractures, but bleeding and neurovascular compromise should be assessed before applying the splint. Open fractures with bone protrusion or bleeding should be initially irrigated with normal saline and covered with a sterile dressing before immobilization. Pressure should be used for bleeding; tourniquets should only be used as a last measure. The Hare splint is one of several types of traction splints but is appropriate only for fractures of the mid-shaft of the femur or proximal tibia. It is often applied by paramedics before transport to the hospital. After immobilization, there should be another check for neurovascular integrity and the extremity should be raised. Local swelling may be treated with ice packs.

28.

A farmer's arm is severed by a threshing machine at the mid-humerus. Which of the following would best preserve the amputated arm for possible reimplantation?

no action; such arm injuries cannot be reimplanted

irrigate the arm with normal saline and pack directly in ice water

pack the arm directly in warm saline

moisten with saline, wrap in a plastic bag, and preserve on crushed ice and water

Explanation:

Traumatic amputations usually occur in workers using farm or industrial machinery or in motor vehicle accidents. Many factors influence the success of reimplantation, including the nature of the amputation (a sharp cut has a better prognosis than crush injuries), the availability of a transplant team, age, and time and method of preservation of the amputated part. The optimal method of preservation is to irrigate the amputated part with cold saline, wrap in saline

moistened gauze, and seal in a plastic bag. The bag is then placed on water and crushed ice and delivered to the hospital as soon as possible. Muscle can remain viable for up to 12 hours, and bone, tendon, and skin up to 24 hours if kept cold. Under warm conditions, the viability of the part is considerably reduced. Packing the part directly in ice water or ice may cause tissue damage because of freezing of cells or osmotic depletion of intracellular contents.

29.

In training a patient with a foot injury to use axillary crutches, which of the following is NOT true?

tips of the crutches should be 6 inches to the side and 6 inches in front

move crutches and injured leg forward at the same time

each handpiece should be situated at the fingertips with the arms in full extension

each crutch should be 2 inches below the axilla with no weight-bearing

Explanation:

Training patients with foot or leg injuries to use axillary crutches properly is a duty that frequently falls to the emergency nurse. In fitting the crutches to the patient, each crutch should be about 2 inches (2 to 3 fingerbreadths) below the axilla with no weight-bearing on the crutch. Each handpiece should be placed so that the patient's elbow is at a 30-degree angle, usually in line with the wrist. In walking with the crutches, the tips should be placed about 6 inches in front and 6 inches to the side. In tall persons, the crutch tips may be placed up to 12 inches to the side. Standing with the weight on the good foot, the crutches and the injured foot should move forward. Then, while bearing weight on the palms of the hands, the good foot moves forward.

30.

A basketball player landed awkwardly after a rebound attempt and twisted his ankle. He is seen in the emergency department complaining of pain and tenderness of the ankle and there is swelling

and discoloration around the joint. He claims he heard a snapping noise when landing and a small avulsion fracture is seen on x-ray. What is the most likely diagnosis?

first-degree strain

second-degree strain

third-degree strain

first-degree sprain

Explanation:

A strain is a weakening or tear in the muscle where it attaches to the tendon. While it may occur with many different traumas to the joint, athletic injuries are perhaps the most common. A third-degree strain causes complete disruption of the muscle or tendon. A snapping noise at the time of injury and an avulsion fracture may be seen on x-ray. Acute treatment for this and lesser strains is compression bandage or splint, cold packs, analgesia, and no weight-bearing for 48 or more hours. First- and second-degree strains also present with pain and minor swelling but symptoms are less severe and no fracture is seen on x-ray. Sprains occur when a joint exceeds its normal range of motion and ligaments are damaged. A first-degree sprain causes pain and swelling around the joint, usually ankle or knee, but is less severe than the symptoms and signs this patient displays. MRI is probably the best diagnostic method for distinguishing sprains from strains.

31.

After an auto accident, x-rays of the patient's leg show a transverse fracture of the mid-femur with several bone fragments surrounding the fracture site. The skin of the leg is intact. This type fracture is called

compression fracture.

comminuted fracture.

avulsion fracture.

open fracture.

Explanation:

A fracture is a break or disruption in a bone, generally divided into closed (no break in the skin) and open (protrusion of the bone through the skin). Fractures may take different anatomic patterns, depending on the bone location, the nature of the trauma and the bone density (may be diminished with osteoporosis). Compression fractures are most common in the spine in which a fracture of one or more vertebral bodies leads to a collapse of the spine at that location. An avulsion fracture reflects a forceful contraction of muscle mass, which pulls a bone fragment to break away at the tendon's insertion site. This type of fracture is often seen with severe joint strains. This patient has a comminuted fracture in which the trauma causes more than two separated portions of the bone. Often, several small bony fragments are seen at the site of the break.

32.

A professional soccer player hears a loud snap in his leg while dodging an opposition player during a game. This is followed by severe pain in the heel and posterior leg. He is unable to walk or use the injured foot. Thompson sign done in the emergency department is positive in the affected foot. What is the most likely diagnosis?

tibial fracture

fibular fracture

ruptured Achilles tendon

calcaneus fracture

Explanation:

Rupture of the Achilles tendon is a common athletic injury, often caused by stepping off abruptly on the forefoot with the knee in full extension. An audible snap or pop is often heard with immediate heel pain radiating to the calf. The patient is unable to walk on the leg and may have a foot-ankle deformity with swelling. Thompson sign, a diagnostic maneuver, will be positive if there is a complete rupture. The patient lies supine on an examining table with both feet extending over the edge. Squeezing the calf results normally in plantar motion; with an Achilles tendon rupture, there is little if any foot motion. Tibial or fibular fractures are not uncommon and usually occur with direct trauma or excessive rotational force. They may be open or closed and cause leg swelling, pain and point tenderness, deformity, and sometimes crepitus over the involved bone. Fractures of the calcaneus occur most often in falls with the person landing on his feet. There is pain in the heel along with swelling and point tenderness.

33.

Which of the following is true about shoulder dislocations?

most are posterior dislocations

most are anterior dislocations

they are uncommon in children

they rarely recur

Explanation:

Shoulder dislocations are most common in children and athletes; 55% to 60% are recurrent. The typical athletic dislocation occurs when the extended arm is abducted and externally rotated. The head of the humerus is pushed in front of the shoulder joint by the force, called an anterior dislocation, which is most common. Less common are posterior dislocations. These may occur during a seizure when the patient falls with the arm abducted and internally rotated. In all cases

in adults, there is pain in the shoulder, deformity, and inability to move the arm. Management requires checking of neurovascular elements in the arm and radiographs, followed by reduction and a postreduction radiograph to check for the correct humeral positioning. The shoulder is then immobilized with a sling and swath or a shoulder immobilizer.

34.

Which of the following injuries is LEAST likely to occur from the initial blast or airwave from an explosion?

spinal fracture

ruptured tympanic membrane

pneumothorax

perforated viscus

Explanation:

Most explosions involve a rapid release of gas that displaces an equal volume of air that travels after the blast wave. This wave is particularly strong and does the most damage to hollow organs, such as the lungs, ears, gastrointestinal tract. Concussions are common because of the pressure wave generated by the blast. Secondary causes of injury are related to missiles released by the explosion: fragments of shell casing or metal objects inserted into a bomb, such as nails or ball bearings. Tertiary injuries are caused by a rapid displacement of the exposed individual, which causes impact with the ground or adjacent structures. These injuries are similar to those sustained in a motor vehicle accident when the victim is thrown clear and hits the ground. In addition, burns and inhalation of noxious fumes are commonly seen in blast victims.

35.

A patient presents to the ER with pain that he describes as sharp and ripping on the posterior chest. There is widening on the mediastinum on the chest x-ray, and a blood pressure differential is noted. What diagnosis does the nurse suspect?

myocardial infarction

cardiac tamponade

dissecting aortic aneurysm

tension pneumothorax

Explanation:

Manifestations of a dissecting aortic aneurysm include a sharp/ripping posterior chest pain with a sudden onset, mediastinal widening on chest x-ray or other radiological studies, syncope, and impaired peripheral pulses or blood pressure differential.

36.

Which of the following is NOT true of the compartment syndrome?

occurs most often in the arm or leg

deep throbbing pain out of proportion to the original injury

pressure of 30 to 60 mm Hg requires fasciotomy

irreversible tissue damage does not occur until 24 to 48 hours of the injury

Explanation:

The compartment syndrome results from compression of the muscular compartment by swelling or compression-restriction of the extremity after an injury. The forearm and leg are the most common sites. Pain out of proportion to the injury is common despite strong analgesics. Prolonged external pressure, frostbite or snakebite may also cause the compartment syndrome. Impaired mobility of digits, paresthesias, coolness over the area, and pallor may be seen. Pulses may be compromised but occasionally a palpable pulse is present distal to the affected area. Rapid diagnosis is mandatory because impairment of the microcirculation in the area may lead to irreversible tissue damage within 4 to 6 hours. Compartment pressure may be determined with a syringe, catheter, or special monitoring device. Pressure above 30 to 60 mm Hg is usually an indication for a fasciotomy.

37.

A 12-year-old is brought to the emergency department with a history of a dog bite the previous day. The dog was the household pet and her family treated it with 70% alcohol and bandage. Today the laceration continues to hurt and appears somewhat swollen and red with a dark exudate. Which of the following would be inappropriate in the treatment of this wound?

irrigation followed by suturing

debridement of nonviable tissue

amoxicillin/clavulanate (Augmentin) orally for 5 days

irrigation with povidone-iodine solution (Betadine)

Explanation:

Dog bites are extraordinarily common, although there appears to be less risk of infection than with human or cat bites. In general, wounds that occur more than 12 hours before treatment, as in this case, should be irrigated but not sutured. Although antibiotics are not always required for simple dog bites, the delay in treatment and the appearance of the wound strongly suggest infection and places the wound at higher risk. Many different antibiotics may suffice but amoxicillin/clavulanate or clindamycin plus trimethoprim/sulfamethoxazole provides good coverage for those who are penicillin allergic. Irrigation under pressure using a syringe or a

commercially available pressure device is ideal. Tetanus status should be checked but because the dog is a house pet and under observation (10 days recommended), there is no need to begin antirabies intervention unless the dog shows clear signs of the disorder. If so, the animal should be euthanized and laboratory testing for the virus done.

38.

Which of the following dressings would be most appropriate for an exudative, probably infected wound?

gauze

transparent film

absorption dressing

hydrogel

Explanation:

Choosing the correct dressing for wound management, especially if secondary or tertiary close is employed, is important to accelerate closure and enhance healing. Gauze can absorb exudate and support debridement if applied and kept moist. However, for wounds with considerable exudate, it is not the first choice. Transparent film permits exchange of oxygen from the environment to the wound but absorbs poorly and would not be the best choice for this type of wound. Hydrogel is useful after debridement of a wound because it maintains moisture; however, it is a poor absorber of exudate and is most useful for deep or necrotic wounds. It often requires a secondary dressing. An absorption dressing would be the best choice for this wound. It can absorb large amounts of exudate, support debridement, maintain moisture, and obliterate dead space in the wound. It is ideal for infected wounds.

39.

Nurse-initiated analgesia protocols (NIAP) includes all of the following EXCEPT

physician-ordered sedation.

nonopioid.

opioids.

nonpharmacologic intervention.

Explanation:

NIAP is a relatively new phenomenon pioneered in Britain and Australia and developing widespread acceptance. It refers to the administration of various analgesic measures, both pharmacologic and nonpharmacologic, by the emergency department nurse prior to physician evaluation. Depending on the particular protocol, the nurse may give patients pain relief that includes physical methods (ice/heat, positioning, and distraction); nonopioid drugs such as aspirin, acetaminophen, or NSAIDs; or opioids, usually oral combinations such as oxycodone or hydrocodone with acetaminophen. Some research protocols have even allowed intravenous morphine to be given by the nurse under specific clinical situations. NIAP has been propelled by busy waiting rooms with many pain patients waiting lengthy periods for physician evaluation. Some potential hazards of NIAP are safety issues, nurse reluctance to use or follow the protocol, patients that leave before being seen, and drug-seeking patients.

40.

Which of the following is true regarding pain management in infants and children?

opioids are contraindicated

infants are less sensitive to pain than adults

pretreatment with local anesthetics prior to procedures, such as lumbar puncture or suturing of

a laceration, is recommended

sedation before a painful procedure or imaging with midazolam or propofol is not recommended

Explanation:

Pain management in infants and children has been controversial in the past but several myths have been debunked, especially that infants are less sensitive to pain because their nervous system has not fully developed, and that opioids, both oral and parenteral, are contraindicated in very young children because they do not metabolize these drugs quickly. In fact, opioid drugs may be used efficaciously at the correct pediatric doses. Analgesia and sedation prior to painful or uncomfortable diagnostic or therapeutic procedures, such as LP, suturing lacerations, x-ray, or CT scanning are recommended. Local vapocoolants given before venipunctures or immunization are helpful, as are sucrose drops, swaddling, maternal breastfeeding, and touching the infant. The Faces pain scale for verbal patients and the Faces, Legs, Activity, Cry, Consolability (FLACC) scale for nonverbal patients are useful adjuncts in assessing the presence and severity of pain.

41.

The Emergency Severity Index (ESI) triage system

has 4 numerical categories (1 to 5) for patient evaluation.

patients are triaged by arrival time and expected resource consumption.

both A and B.

neither A nor B.

Explanation:

The job of triage nurse in the emergency department requires a lot of clinical knowledge and the ability to deal with stressful situations without abandoning professional standards. Because of increasingly crowded emergency departments and longer patient waiting times, the position is crucial to the smooth operation of the facility. While triage systems vary, most require an assessment of acuity (not arrival time): emergent defined as severe and life-threatening; urgent requiring care as soon as possible; and nonurgent in which routine care is needed and physician evaluation is not required immediately. One new system, the ESI, developed by emergency physicians and nurses, takes both acuity and available resources into account to sort patients into 5 possible categories: 1) requires life-saving intervention immediately; 2) high risk, confusion or lethargy, and severe pain or distress; 3) age-specific blood pressure, respiratory rate at critical levels, and oxygen saturation less than 92% are not present; 4) one resource needed; 5) no resource needed.

42.

Which of the following is NOT true regarding application of restraints to an aggressive patient?

annual physical restraint training is mandatory

any patient death within 24 hours of being restrained must be reported

once restraints are applied, the patient's condition must be assessed and recorded every 4 hours

reasons for restraints must be documented and duration of application specified

Explanation:

The rules regarding use of patient restraints have evolved over the past few years. Nurses and other hospital employees with patient care responsibilities must undergo annual training in their use and under what circumstances they may be applied. In general, the confused and uncooperative or aggressive patient who does not conform to treatment or is a threat to himself or herself or the medical personnel is a possible candidate. Every effort should be made to calm the patient with other methods (conversation, intervention of family members, pharmacologic agents such as olanzapine or haloperidol) before physical restraint is applied. The indication for and duration of restraint must be documented in the patient's record. Once they are applied, the patient should be checked every 15 minutes to 2 hours (depending on hospital/unit policy) and

observations recorded. Any death within 24 hours of being restrained must be reported to the Centers for Medicare and Medicaid Services (CMS).

43.

Disaster preparation and prevention measures include

disaster-related supply inventory.

plan for housing, food, and water for staff.

establish communication protocol for notifying public health and law enforcement.

all of the above.

Explanation:

Disaster planning for multiple patients with a variety of injuries is now mandated by federal law and administered by Department of Homeland Security guidelines. These include algorithms for prevention, protection, response, and recovery for both personal and professional duties. It is critical in preparation for any disaster and a large influx of injured or infected patients to ensure adequate disaster-related supplies related to specific types of calamity: fire, flood, earthquake, epidemic, and terrorist attack. Often overlooked are measures to keep the professional staff supplied with places to rest, and food and water, especially in situations where travel or time is limited. Notification protocols for health agencies, law enforcement, hazardous materials teams, EMS, and 911 responders should be in place. Regular disaster drills have become standard practice for emergency and hospital personnel.

44.

Organ donation after cardiac death

is against federal law.

requires the consent of the legal next of kin or an advanced directive from the donor.

end-of-life care and organ harvesting should be directed by the transplant surgeon.

Unlike brain death donations, notification of the local organ procurement organization (OPO) is unnecessary.

Explanation:

Because of the acute shortage and high demand for organ transplantation, organs from cardiac death patients (declaration of death is based on cessation of cardiopulmonary activity) have become quite common. Like patients with brain death, organ donation from cardiac death patients is allowed by federal law but requires the written consent of the legal next of kin. In some states, advanced permission is recorded on driver's licenses. The local OPO must be notified and the medical examiner's approval may be required by state law. Hastening death in moribund patients is allowed after suitability of the donor and legal consent has been established; this may be done by slow termination of life support. Lethal doses of pharmacologic agents are forbidden. The transplantation team must not participate in the end-of-life care of the donor but the potential donor may be taken to a surgical suite in preparation for the organ removal.

45.

Which of the following is NOT true for peripherally inserted central catheters (PICC) for venous access?

requires a non-coring needle such as a Huber for administering fluids or withdrawing blood

may be single or multilumen

does not require surgery for removal

requires frequent heparin flushing and injection cap changes

Explanation:

Central venous access is often required for emergency patients, to replace fluid and electrolytes, for blood product transfusions and blood sample collection, and to monitor hemodynamics (central venous pressure). While arm veins may be used to thread the catheter into the superior vena cava, larger veins such as the subclavian, jugular, or femoral are often preferred for reasons of speed and stability. These catheters may be single or multilumen (e.g., to draw blood from one channel and administer drugs via another). One advantage is that surgery is unnecessary for removal but they do require frequent heparin flushing and injection cap replacement. They do not require a non-coring needle like that used for totally implanted venous access devices such as a Port-A-Cath or LifePort.

46.

The ED nurse understands that the ongoing evaluation and monitoring of a client with chest pain includes which of the following?

evaluating response to a low-sodium meal

managing airway patency, blood pressure, and oximetry

being prepared to insert an IV line as needed

documenting the client's insurance information

Explanation:

In the ED, monitoring airway, blood pressure, and oximetry are essential for a client with chest pain. A meal is not usually offered, and an IV line should already be established as the protocol

for a client with chest pain. Documentation of insurance is the responsibility of the admissions clerk and not an immediate concern for the ED nurse.

47.

A chronically anemic patient is receiving a packed red blood cell (PRBC) transfusion. He suddenly develops fever and chills, tachypnea and dyspnea, and tightness in the chest. His urine flow is diminished and dark in color. What is the probable diagnosis and appropriate measures to take?

air embolus; stop infusion, administer oxygen, and turn patient on left side

hemolytic transfusion reaction; stop transfusion, send the untransfused blood and a patient blood sample to the blood bank, monitor UOP and collect sample for the lab

pyrogenic transfusion reaction; stop transfusion and switch to leukocyte-poor PRBCs

circulatory overload; stop transfusion, consider diuretics

Explanation:

Transfusion reactions may be of several types and some of the symptoms may overlap. In nearly every case, the transfusion should be stopped immediately and the line kept open with normal saline or other maintenance fluid. This patient's symptoms and signs strongly suggest a hemolytic transfusion reaction due to ABO incompatibility. Type-specific blood that has been cross-matched is standard for blood and packed cell transfusions, but type O Rh negative (females and males) or type O Rh positive (males) may be given in severe emergencies. Hemolytic transfusion reactions are often severe and may be life-threatening so immediate supportive therapy is required. Pyrogenic reactions are mostly due to recipient antibodies to donor leukocytes and leukocyte-poor blood product is preferred. Air embolus is usually due to catheter manipulation (often by patient) or improper infusion technique. Circulatory overload, by overzealous or too-rapid transfusion, may produce symptoms of pulmonary edema; give diuretic and other appropriate treatment for this immediately.

48.

The best method of limiting absorption in an adult who has ingested an unknown toxic substance is

induced emesis with syrup of ipecac.

gastric lavage.

administer activated charcoal.

administer activated charcoal plus a cathartic.

Explanation:

One method of reducing absorption of an orally ingested toxic substance is by gastric decontamination. This is appropriate in cases of an unknown substance and even with known drugs or toxins that are not corrosive and for which an antidote is available. Syrup of ipecac has been used for many years to induce emesis and reduce upper gastrointestinal concentration of the toxic substance. It is rarely used now and is contraindicated by many authorities because it may cause numerous complications and no studies have shown that it actually improves clinical outcomes. Gastric lavage is also a traditional method that is used less frequently now; its use is beneficial mostly for large ingestions within the first 60 minutes. Activated charcoal is the preferred substance to administer; it absorbs most poisons (except alcohols or heavy metals) and should not be used for corrosive alkali or acid substances. Because activated charcoal is constipating, mixing a cathartic such as sorbitol or magnesium citrate with activated charcoal will enhance elimination of the poison.

49.

A young unidentified man is brought to the emergency department comatose with poor respiratory function. He has pinpoint pupils. Needle scarring is noted on his arms and legs and he appears underweight and malnourished. What are appropriate emergency care methods to treat him?

endotracheal intubation with oxygen

activated charcoal and cathartic by nasogastric tube

naloxone 0.2 mg intravenously

all of the above

Explanation:

Opioid overdoses, both oral and parenteral, are among the most common problems seen in emergency departments. This patient has typical findings of chronic opioid abuse. As with most emergency department patients, the ABC of emergency patient care is the primary concern; airway maintenance is critical because respiratory depression is the main deleterious effect of these drugs. Activated charcoal is effective in absorbing opioids and should be used with a cathartic after the airway is secure to overcome the constipating effect of the opioid. Many addicts use both oral and intravenous drugs. Naloxone is an opiate antagonist that acts on the brain to reduce respiratory depression and improve the level of consciousness. Repeat or continuous doses may be needed because the drug has a short half-life. A toxicological screen for the opiate and the frequently observed multi-drug abuse should be done but serum levels are not often helpful because of the large variety of opioid drugs with varying half-lives. Clinical response is the best indicator of effective therapy.

50.

An elderly patient has recently taken a large dose of imipramine (*Tofranil*) in an apparent suicide attempt. He is confused and disoriented, hypotensive, and tachycardic with flushed skin and wide pupils. While being brought in by paramedics, he has a seizure. An ECG shows a sinus tachycardia with a prolonged QRS complex and QT-interval and T-wave abnormalities. Which of the following pharmacologic agents would NOT be appropriate?

lorazepam (Ativan)

sodium bicarbonate

phenytoin (Dilantin)

activated charcoal and sorbitol

Explanation:

Overdose of tricyclic antidepressants, often by elderly patients with suicidal intent, is less common now since the advent of SSRI drugs for depression but is still a fairly frequent medical emergency. More common is CNS dysfunction ranging from disorientation and confusion to seizures and frank coma; anticholinergic effects including flushed skin, dry mucous membranes, and mydriasis; and cardiac effects including conduction abnormalities and ventricular tachycardia. Phenytoin is contraindicated for seizures in these patients because it has sodium channel blocking activity and may worsen arrhythmias. The drugs are very well absorbed by activated charcoal; the combination of activated charcoal with sorbitol to overcome the anticholinergics effects on the bowel is useful. Sodium bicarbonate raises the blood pH and lowers the free drug concentration, improving some of the ECG abnormalities.

51.

Heat stroke differs from heat exhaustion in that

heat stroke occurs suddenly; heat exhaustion does not.

heat exhaustion occurs mostly in infants and elderly persons.

heat exhaustion has up to a 70% mortality rate.

heat exhaustion may be treated with ice water immersion.

Explanation:

Heat exhaustion occurs mainly in young children and elderly persons, usually because they are unable to replace fluid and electrolyte loss adequately. It often occurs suddenly and is

characterized by thirst, malaise, muscle cramping, nausea, and vomiting. If untreated, it may cause hypotension, mild to severe temperature elevations, syncope, and possible progression to heat stroke. Diaphoresis may or may not be present. Treatment is based on removal to a cooler environment, replacement of fluid and electrolyte losses (oral or intravenous), and placement of moist clothing on patient to enhance perspiration. Heat stroke occurs when the physiologic cooling mechanisms become impaired and it is a medical emergency. It occurs in classic form in which the individual is exposed to prolonged elevated environmental temperatures, and in exertional form, mostly seen in athletes or military personnel. Core temperatures greater than 104 °F are found but these patients are only modestly fluid depleted. Ice packs may be used; total immersion in ice water is controversial and may cause shivering, which raises the body temperature.

52.

Which of the following statements is/are accurate regarding frostbite?

Frostbite may be superficial, affecting the skin and subcutaneous tissue, or deep, affecting bone and tendons.

Frostbite-affected areas may become mottled with blistering.

both A and B.

neither A nor B.

Explanation:

Frostbite is a common medical emergency and its seriousness depends on exposure time and temperature, protective clothing, wind chill, wet or dry body parts, and contact with metal. Superficial frostbite affects skin and subcutaneous tissue and resembles a superficial burn. It mostly occurs on fingertips and toes, ears, nose, and cheeks. The area affected becomes extremely sensitive to further cold or heat exposure and becomes mottled with blisters, which form within a few hours. Basic treatment is application with warm soaks (104 °F to 110 °F) and extremity elevation. Deep frostbite occurs with low limb temperature and affects bone, muscle, and tendons. The patient senses a burning sensation followed by warmth and numbness. Edema, blistering, and gray-black mottling leading to necrotic gangrene may occur. Rapid

rewarming of the tissue is the treatment of choice. This may be quite painful and potent analgesics may be required.

53.

A mountain climber is rescued by helicopter several days after an incapacitating fall near the mountain top. His core body temperature in the emergency department is 78 °F (28.8 °C). Which of the following warming techniques would be most efficient?

warmed humidified oxygen

warmed intravenous fluids

Bair Hugger warming blanket

continuous arteriovenous rewarming (CAVR)

Explanation:

There are numerous techniques for rewarming body hypothermia. Treatment choice is largely dependent on core body temperature and may be active or passive. For mild hypothermia (93.2 °F to 98.6 °F), removing wet clothing, warm environment, and blankets may be satisfactory; warmed humidified oxygen and warmed glucose-containing fluids are an active option. For moderate hypothermia (86 °F to 93.2 °F), heating blankets (Bair Hugger therapy), radiant heating lamps, and hot water bottles may be used in addition to the active methods. Numerous other methods are available, such as peritoneal lavage, gastrointestinal rewarming by irrigation, hemodialysis, and even cardiopulmonary bypass. For severe hypothermia (below 78.8 °F), as in the case above, the CAVR method is perhaps the most efficient. A catheter in the femoral artery delivers blood to a countercurrent extracorporeal rewarming chamber and the blood is then returned to the venous cordis. The patient's own heart drives the system as there is no external pump as in a heart-lung machine. Hypotension and ventricular arrhythmias are complications of extreme hypothermia.

54.

A 40-year-old man is rescued from a house fire and brought to the emergency department by paramedics. He is quite lethargic, breathing is rapid and shallow, and heart rate is regular but increased and blood pressure is moderately low. A carboxyhemoglobin (COHb) level is 40%. An endotracheal tube is placed. Which of the following would be the best treatment?

hyperbaric oxygen at 3 atm for 46 minutes; repeat in 6 hours if full CNS activity not restored

hyperbaric oxygen at 6 atm for 1 hour; repeat in 4 hours if full CNS activity not restored

100% oxygen until the COHb falls below 10%

60% oxygen until the COHb falls below 10%

Explanation:

Carbon monoxide poisoning is the most frequent cause of poisoning in the United States and results predominantly from house fires, vehicle exhaust (often with suicidal intent), and defective heating equipment. Hypoxia is due to the marked affinity of CO for hemoglobin (200 times that of oxygen) and impaired delivery of oxygen to the tissues. The cytochrome oxidase system of cellular respiration is also affected by CO. Symptoms are related to the amount of CO inspired and the duration of exposure, measured as the percent attached to hemoglobin. Symptoms range from headaches, nausea, and confusion at 10% to 25% COHb to cardiopulmonary arrest at levels of 60% or greater. The main therapeutic objective is to displace the CO from hemoglobin (and myoglobin) with high-flow oxygen. The half-life of COHb at room air is 5 to 6 hours, 1 hour with 100% oxygen, and less than 20 minutes with hyperbaric oxygen. Delivery at 3 atm for 46 minutes with repeat in 6 hours if symptoms persist has been found to be most effective.

55.

A 30-year-old adult has extensive full thickness burns on the upper chest (neck to nipples) and the left anterior thigh and lower leg. There are no other injuries. By the rule of nines, how much of the total body surface area (TBSA) is involved and what should be the disposition of the patient?

12%; outpatient treatment

20%; admit to community hospital

27%; transfer to a burn center

36%; transfer to a burn center

Explanation:

Burns are defined by the thickness, partial for the epidermis, full for the dermis and deeper. Often it may take 48 hours or more after the injury to determine the correct level. In addition, the extent of the burn injury is very important for management and can be estimated by a variety of tables or charts. Perhaps the most well-known and simplest is the rule of nines, in which specific body areas are assigned percentages of the TBSA: 4.5% for anterior or posterior head; 18% for anterior or posterior thorax; 4.5% for anterior or posterior abdomen or for either upper extremity; and 9% for anterior or posterior leg. Scatter burns are given 1% of TBSA if they are hand size, including fingers of the examiner. Disposition of the patient is based on criteria formulated by the American Burn Association. This patient has a 27% burn area (9% for the leg, 18% for the anterior chest). An adult younger than 40 with 25% or more TBSA involvement should be transferred to a burn center if stable.

56.

Which of the following is NOT a feature of the shock syndrome?

decreased antidiuretic hormone (ADH) release

increased epinephrine release

increased angiotensin II and aldosterone

increased glucose production

Explanation:

Clinical shock is caused by inadequate perfusion of tissues with resulting hypoxia. Tachycardia, tachypnea, poor peripheral circulation, and diminished urine output are clinical features as blood is shunted from the periphery to the three most vital organs: brain, heart, and lungs. The release of several hormones is increased in response. Epinephrine and norepinephrine are released by the adrenal gland and cause peripheral vasoconstriction, enhancing blood shifting to the critical organs and also stimulating the heart; cortisol is released by the adrenal glands, stimulating hepatic glucose production. Although the glucose level rises, there is also an increase in insulin resistance so that tissues may still be deprived of essential fuel. The increased conversion of renin from the kidney to angiotensin II and adrenal aldosterone enhance renal sodium reabsorption and restoration of fluid to the intravascular space. Decreased renal perfusion leads to increased ADH release from the posterior pituitary gland to maintain intravascular volume; consequently, urine output is diminished.

57.

Which symptom/s would be apparent with left-sided heart failure?

pulmonary edema

venous congestion

absence of pain

absence of any notable symptoms

Explanation:

A client presenting with left-sided heart failure is often in sudden pulmonary edema with shortness of breath. Venous congestion is a symptom of right-sided failure, and heart failure can present with or without pain. There is always shortness of breath or pulmonary congestion when presenting to the ED, which require intervention.

58.

Neurogenic shock may be caused by all of the following EXCEPT

spinal cord injury.

blood loss.

excessive insulin with hypoglycemia.

brain injury.

Explanation:

Most shock syndrome differentiation is based on categories: hypovolemic (blood loss, third spacing of intravascular fluid); septic (sepsis, usually with gram-negative bacteria that release endogenous pyrogens, provoking numerous cytokines and proinflammatory mediators causing vascular insufficiency); cardiogenic (impaired cardiac output, usually due to myocardial infarction); anaphylactic (excessive allergic reaction); and neurogenic (may be caused by brain injury or spinal cord injury). Excessive insulin may also produce a neurogenic shock by sharply causing hypoglycemia. The vasomotor center of the brain is depressed, diminishing sympathetic outflow that controls the vascular response. Unopposed parasympathetic discharge leads to peripheral vasodilation and impaired cardiac performance, resulting in shock.

59.

For patients with hemorrhagic shock due to trauma

blood pressure should be brought to normal with fluids and banked blood.

mean arterial blood pressure (MAP) should be maintained at 40 mm Hg until bleeding

controlled.

MAP should be maintained above 65 mm Hg at all times.

MAP should be maintained above 95 mm Hg.

Explanation:

In shock resuscitation, the patient response to corrective measures is probably the best index of effective therapy. A minimum MAP of 40 mm Hg is recommended by authorities in those patients who are actively bleeding. Too vigorous administration of intravenous fluids may result in dislodgement of clots, dilution of coagulation factors, venous dilation, and hypothermia. Once bleeding is controlled by surgical or nonsurgical means, higher pressures may be sought with blood and fluid administration. A higher MAP is advised for other shock states: 90 mm Hg for traumatic brain injury without hemorrhage, and greater than 65 mm Hg for most other forms of shock. Massive blood transfusion for shock patients may lead to complications such as coagulopathies, ARDS, or multiorgan failure. Vasopressors, such as dobutamine, dopamine, epinephrine, or norepinephrine, may be required to sustain blood pressure in many forms of shock.

60.

Which of the following is NOT recommended for routine hemodynamic monitoring of patients in shock?

pulmonary artery catheter

central venous pressure

pulse oximetry

superior vena cava oxygen saturation ($ScvO_2$)

Explanation:

While observation of the patient's heart and respiratory rates, mental status, and adequacy of peripheral circulation are clinical indicators of shock, several invasive and noninvasive methods for following effectiveness of treatment are available. Pulse oximetry is a simple and noninvasive technique to measure peripheral oxygen saturation but is subject to limitations in estimating circulation and hypoxia, especially with use of vasoactive medications or hypothermia. Central venous pressure is a useful measure of circulating volume, cardiac performance, and vascular tone. Values under the normal range of 4 to 10 cm H_2O indicate a low circulating volume while values above this range may indicate excessive fluid administration, pulmonary edema, or vascular obstruction. $ScvO_2$ is measured from a catheter in the superior vena cava and a value of 70% is used to guide therapy even if clinical signs show improvement. Pulmonary artery catheters (e.g., Swan-Ganz) are not recommended for routine hemodynamic monitoring.

61.

When placing a tourniquet to control arterial bleeding from a lower leg wound

it should be placed right over the wound.

it should be placed as distally as possible.

it should be placed distally but at least 5 cm proximal to the wound.

it should not be used.

Explanation:

Acute management of bleeding is an extremely common task in the emergency department and often the emergency department nurse must initially address the problem. Some of the rules of tourniquet placement are: 1) do not place directly over the wound; direct pressure to the wound is preferable; 2) the tourniquet should be placed as distally as possible but 5 cm proximal to the bleeding site; 3) apply it directly to the exposed skin, not over clothing or a dressing; 4) do not apply over a joint; 5) do not apply over a foreign object; 6) release the tourniquet as soon as

possible when bleeding is controlled; it may be left in place for up to 2 hours without excessive tissue damage.

62.

Acid-base balance in shock patients is characterized by

respiratory acidosis followed by metabolic alkalosis.

respiratory alkalosis.

metabolic acidosis.

transient respiratory alkalosis followed by metabolic acidosis.

Explanation:

Poor tissue perfusion and hypoxemia in shock states lead to anaerobic metabolism and increase in lactic acid and base deficit. This tissue acidosis stimulates the respiratory centers and is initially compensated by increased respiratory action, which tends to increase oxygenation and buffer the acidosis by diminishing CO_2 levels. Without treatment, the acidosis prevails and is the most common finding in shock patients. If the pH is very low (less than 7.1), sodium bicarbonate should be administered because lethal cardiac arrhythmias may occur; with pH values above this, treatment of the cause of the shock along with ventilation and oxygenation and fluid replacement should improve the acidosis. Persistent or very low pH levels indicate a high risk for complications such as multiorgan failure, ARDS, or DIC.

63.

Which of the following has NOT been shown to improve the survival of patients with septic shock?

colloid rather than crystalloid therapy

antibiotic therapy within 1 hour of diagnosis

keeping the mean arterial pressure at 65 mm Hg or higher

administration of recombinant human activated protein C (rhAPC)

Explanation:

Frequently intensive care measures must be initiated in the emergency department because of lack of beds and other logistical or bureaucratic problems. The early goal-directed therapy (EGDT) study for septic patients with elevated lactate levels or refractory hypotension treated in the emergency department for 6 hours prior to ICU admission showed an increased survival over standard treatment (46.5% vs 30.5%). Fluid resuscitation remains a cornerstone of treatment in these patients but the debate of the superiority of colloids vs crystalloids remains unsettled. Many patients receive both (e.g., fresh frozen plasma and normal saline). Antibiotic therapy begun within 1 hour of diagnosis has also lessened mortality. Numerous antibiotic combinations may be satisfactory but adequate gram-negative coverage is essential. Maintaining the MAP at 65 mm Hg or greater and a $ScvO_2$ of at least 70% are two of the EGTD parameters. Administration of rhAPC to septic patients in whom protein C levels are low has shown some decrease in risk and mortality.

64.

The following instructions are appropriate for which type venous access?

Heparin 10 to 100 units/mL: use 1 to 2.5 mL after use and/or every 12 hours. After blood withdrawal or medication administration, flush with saline before heparin flush. No saline flush required before medication administration.

tunneled catheter

Groshong catheter

implanted port

peripherally inserted central catheter (PICC)

Explanation:

There are several different types of central venous access devices for fluid and electrolyte, blood product, or drug administration and withdrawal of blood samples. The tunneled catheter is surgically threaded into the subclavian vein and then into the superior vena cava or right atrium. The distal end of the catheter emerges below the clavicle with a Dacron cuff for stability. These require withdrawal of 10 mL of blood before aspirating a sample for the lab and a 5 mL flush before medication administration. A Groshong type catheter requires 5 mL saline flushes after use or once per week; no heparin needed. An implanted port requires a 500-unit heparin flush once a month if not in use and a 10 mL saline flush followed by heparin after blood withdrawal. The instructions in the question are most appropriate for a PICC.

65.

Which bone site is least desirable for intraosseous infusion in infants and young children?

sternum

iliac crest

anterior tibia

distal femur

Explanation:

Intraosseous infusion is a rapid alternative for intravenous administration, especially for infants and children whose veins are not easily accessible or in adults until more traditional venous access is obtained. An 18-gauge needle is used for infants and a 15-gauge needle for older

children and adults. The sternum is quite thin in young children and insertion of the needle here is contraindicated; however, it may be used in adults. Preferable sites are the iliac crest, anterior tibia at the tibial tuberosity (best for children), external femoral condyle or medial malleolus. Needles should not be inserted through infected or burned tissue. Manual pressure or an infusion pump is often required if large volumes must be administered quickly. Alternative vascular access should be obtained within 4 hours.

66.

A 60-year-old man with type 2 diabetes is taking metformin and a diuretic for hypertension. He ran out of metformin about a week ago and is waiting for his mail order to arrive. He has become lethargic and confused over the past few days with vague abdominal pain, polyuria, and polydipsia. He appears dehydrated. His blood glucose is 900 mg/dL, arterial pH is 7.35, and serum osmolality is 430 mOsm/L; serum ketones 1+ at 1:1 dilution. Serum lactate level is 1.5 mmol/L. What is the most likely diagnosis?

lactic acidosis

diabetic ketoacidosis (DKA)

hyperosmolar hyperglycemia

none of the above

Explanation:

This patient's history, presentation, and laboratory findings are fairly typical of hyperosmolar hyperglycemia. In contrast to DKA, patients with hyperosmolar hyperglycemia tend to be older, have type 2 diabetes, and often present with neurologic signs and symptoms. Usually the glucose level is above 800 mg/dL and the serum osmolality above 350 mOsm/L, but test for ketones is negative or only slightly positive and the pH is in the normal or only slightly low range. Type 2 diabetic patients have adequate insulin levels to keep them out of ketoacidosis but not enough to overcome the marked hyperglycemia due to increased insulin resistance and increased hepatic gluconeogenesis. Often this syndrome is triggered by stopping medication and exacerbated by osmotic diuresis or diuretics causing dehydration. Mortality may be as high

as 60%. Lactic acidosis may be triggered by metformin but he has been off the drug for a while and levels above 4 to 5 mmol/L are usually seen with lactic acidosis.

67.

A 40-year-old woman with a history of Graves' disease is brought to the emergency department with a fever of 104 °F, and she is disoriented and semi-comatose with a Glasgow score of 10. Her ECG shows atrial fibrillation with a ventricular rate of 130. Which of the following drugs should NOT be administered?

beta-blocker

methimazole

iodide

epinephrine

Explanation:

This patient has extreme thyrotoxicosis, which usually is caused by underlying Grave disease with cessation of antithyroid medications. Presentation usually involves high fever, tremors, agitation, and delirium or coma. The disorder, often called thyroid storm, is life-threatening and has a 90% mortality rate if left untreated. Often a history is difficult because of the patient's condition but the clinical picture usually is enough to make the diagnosis. Beta-blockers are given to control adrenergic effects and reduce the ventricular rate. Anti-thyroid drugs such as propylthiouracil (PTU) or methimazole are given orally or by nasogastric tube to block further synthesis of thyroid hormone. The onset of action is in about 1 hour but full effect may take 3 to 6 weeks. Iodides may also be given to inhibit hormone release from the thyroid and block the conversion of T4 to T3, but these drugs should be given for at least 1 hour after the antithyroid medications. Epinephrine would not be indicated to treat this patient.

68.

Inspection when triaging a client with chest pain includes which of the following?

observing the patient's interactions with the assistive personnel

looking for family interactions

observing skin color, signs of edema

asking about medical history

Explanation:

The act of inspecting is looking for objective data about the client that reinforce the client's complaints. The style of clothing, how the family interacts, and asking questions may also be part of the complete assessment, but the objective data are collected by observation of the physical signs and symptoms the patient shows.

69.

Which of the following coagulation factors is NOT vitamin K dependent?

prothrombin (factor II)

prothrombin conversion accelerator (factor VII)

antihemophilic factor A (factor VIII)

antihemophilic factor B (factor IX)

Explanation:

Blood coagulation is complex and consists of a series of reactions, sometimes called the coagulation cascade, that involve tissue and endothelial factors, plasma coagulation factors (proteins), and platelets. In addition, there is a fibrinolytic system that lyses clots. The vitamin K–dependent factors are II, VII, IX, and X (thrombokinase factor). The drug warfarin (Coumadin) has been used for many years to inhibit synthesis of these factors in the treatment and prevention of thromboembolic disease (deep vein thrombosis [DVT], pulmonary embolus, emboli from the heart, especially in patients with atrial fibrillation). Factor VIII is not vitamin K dependent and is the missing or dysfunctional factor in hemophilia A, usually a sex-linked inherited disorder but occasionally caused by mutation. Interestingly, factor IX is absent or defective in hemophilia B (less common than hemophilia A) and is vitamin K dependent. Vitamin K administration may reverse deficiency of the dependent factors (usually due to excessive warfarin) but is usually given only if there is significant bleeding.

70.

Which of the following is NOT a feature of the tumor lysis syndrome?

occurs in malignancies with rapid cell lysis

hypokalemia

hypocalcemia

hyperuricemia

Explanation:

Tumor lysis syndrome results from a large breakdown of tumor cells, usually after chemotherapy but occasionally spontaneously. It is most often seen in highly proliferative tumors. Breakdown of cells lead to marked potassium and phosphate release, leading to hyperkalemia and hyperphosphatemia. Hypocalcemia results from the binding of calcium to the phosphate. Elevated uric acid also occurs because of the breakdown of nucleic acids released from the cells. Fatigue, anorexia, muscle and abdominal cramps, dysrhythmias, flank pain, and renal failure may result. Treatment includes vigorous hydration and sodium bicarbonate to alkalinize the urine and protect against uric acid deposits in the kidney. Diuretics may also be

used. Allopurinol is given to diminish the hyperuricemia; phosphate-binding agents to diminish the elevated phosphate. Hyperkalemia is treated with intravenous calcium gluconate or chloride, glucose and insulin and sodium bicarbonate to drive potassium into cells, as well as sodium polystyrene sulfonate (Kayexalate) to draw potassium into the gastrointestinal tract.

71.

All of the following are acute complications of sickle cell anemia EXCEPT

priapism.

chest pain and bilateral pulmonary infiltrates.

bone, joint, and spine pain.

gastrointestinal bleeding.

Explanation:

Sickle cell anemia is an autosomal disorder, found in about 1 out 500 African-Americans, in which red blood cells contain hemoglobin S instead of the normal hemoglobin A. These abnormal red cells have a shortened lifespan (10 to 20 days vs 120 for normal red cells) and a tendency to form a sickle shape, especially when provoked by hypoxia, dehydration, infection, high altitude, or exercise. The sickle cells are less deformable than normal and tend to occlude small blood vessels, causing tissue hypoxia, infarction, and necrosis. These are referred to as sickle crises and cause diffuse, often severe, pain, especially in bones and joints. An acute chest syndrome with dyspnea, pain, fever, and pulmonary infiltrates may also occur. Priapism in males may be caused by occlusion of the venous drainage of the penis. Aplastic crisis, a condition of bone marrow failure, may also occur. Gastrointestinal bleeding may occur because of aspirin or NSAID medication or stress ulceration but is not considered part of the basic disease.

72.

A cancer patient is seen in the emergency department with high fevers and malaise for 2 days. She received chemotherapy about 10 days ago. Her physical exam is not revealing but her temperature is 103 °F. A CBC shows a hemoglobin of 10 g/dL, WBC 4000 with 10% polys, 5% bands, 70% lymphs, 10% monos, and 5% other white or unidentified cells. Platelets are 60,000/mm^3. Which of the following is NOT immediately appropriate?

blood cultures from different sites

electrolytes, liver and renal function tests

ask if she has been receiving granulocyte colony-stimulating factor (G-CSF)

white blood cell transfusion

Explanation:

This patient has fever and neutropenia after chemotherapy. Neutropenia is defined as an absolute neutrophil count (ANC) under 1000/mm^3, and a severe neutropenia less than 500/mm^3 is particularly dangerous. These patients must be worked up quickly and antibiotic and possibly additional therapy started as soon as possible since the situation may be life-threatening. While myelosuppressive drugs differ in the length of time between administration and the nadir of the ANC, 10 to 14 days is typical. Multiple cultures from different possible sites of origin for sepsis must be done along with chest x-ray and other imaging as indicated by examination. Broad-spectrum antibiotics, such as ceftazidime or imipenem/cilastatin, should be started after cultures are obtained. She should be asked if she has been receiving G-CSF (Neupogen, Neulasta). WBC transfusions are rarely used today since they have a very short shelf life, do not last long in the circulation, and may cause allergic reactions.

73.

Which of the following devices is most likely to give accurate intracranial pressure (ICP) readings?

intraventricular

subdural

epidural

intraparenchymal

Explanation:

Intracranial pressure monitoring is indicated for traumatic brain injury with an abnormal CT of the brain or with 2 or more high-risk factors: age older than 40, posturing motor response, or systolic blood pressure less than 90. Under normal circumstances, the ICP is between 0 and 15 mm Hg. The brain can compensate to a point for additional volume but when brain compliance is exhausted the ICP rises sharply. Critical is the central perfusion pressure (CPP), which is the difference between the mean arterial pressure (MAP) and the ICP. CPP values below 50 mm Hg indicate hypoperfusion and brain ischemia. Intraventricular placement of a pressure transducer by catheter into the lateral ventricle gives the most accurate pressure readings and allows easy sampling of CSF, but is harder to place and there is a higher risk of infection than with the other devices.

74.

Members of a particular government office are exposed to anthrax spores when an envelope is opened. Terrorist activity is strongly suspected. Which of the following is true?

inhalation anthrax is the most common form

human to human transfer does not occur

inhalation of live bacteria causes the disease

antibiotics are ineffective

Explanation:

Anthrax is a gram-positive bacterium that forms spores that may survive for long periods in soil. The disease may occur in 3 forms: 1) inhalation of spores, the least common but most deadly form; 2) cutaneous, the most common form that produces localized disease, often contracted directly from handling infected animal hides; and 3) gastrointestinal, acquired by eating the spores, usually from infected meat. Aerosolization of spores enhances their use as a biologic weapon. A flu-like syndrome followed by a short period of improvement, then a severe deterioration and death is a typical course of the inhalation type if left untreated. Mediastinitis and meningitis are complications of the inhaled form. Human to human transfer does not occur so that mass isolation is not required. Decontamination of areas of exposure is usually carried out. Antibiotics such as ciprofloxacin (Cipro) or doxycycline are effective but treatment should be carried out for 60 days.

75.

A patient presents with a history of nausea, vomiting, and diarrhea for several days after a Caribbean cruise. In the emergency department, she is weak, moderately hypotensive, and dehydrated. An ECG shows bradycardia, mild ST depression, and a U wave with some ventricular ectopic beats. What is the most likely electrolyte abnormality?

hypomagnesemia

hyperkalemia

hypokalemia

hypocalcemia

Explanation:

Hypokalemia (potassium lower than 3.5 mEq/L) may result from gastrointestinal or renal loss, or from transfer from extracellular fluid to intracellular fluid. Drugs such as aldosterone, insulin, and beta2-agonists promote the latter. Gastrointestinal loss is the most likely cause in this patient and hypokalemia may be a feature of traveler's gastroenteritis. Renal loss occurs with diuretics or kidney disease and low potassium may be a feature of diabetic ketoacidosis or excess steroids. The ECG findings described are typical of low potassium but do not necessarily

correlate with the degree. Potassium administration should be through a large bore or central venous catheter (it is locally irritating) by an infusion pump at 40 mEq/L not to exceed 10 to 20 mEq per hour. For severe hypokalemia, a 5 to 10 mEq bolus may be given but serial potassium and cardiac monitoring is required to avoid hyperkalemia, ventricular dysrhythmias, and death. Low serum magnesium levels may accompany hypokalemia and should be checked.

76.

To check orthostatic vital signs, blood pressure and pulse rate should be measured after the patient is

1 minute supine, 1 minute sitting, and 1 minute standing.

3 minutes supine, 1 minute sitting and/or standing.

3 minutes prone and 3 minutes standing.

none of the above.

Explanation:

Measurement of pulse and blood pressure while the patient is supine for 3 minutes and then sitting and/or standing for 1 minute is a clinical method (orthostatic vital signs) to determine hypovolemia or impaired sympathetic discharge or venoconstriction in patients with syncope. Generally, lying to standing is more sensitive to orthostatic hypotension. Positive results consist of a rise in pulse rate of 30 beats per minute or blood pressure fall of 20 mm Hg on change of position. Development of dizziness or syncope on standing is also considered a positive sign. While the value of this test in predicting hypovolemia is far from perfect, it is simple to perform, and, if positive, may direct further laboratory or clinical investigation.

77.

A 7-year-old child is brought to the emergency department after multiple bee stings about 30 minutes previously. He complains of itching, swollen lips, and difficulty breathing. Wheezing and

stridor are heard. In addition to giving epinephrine, treatment will include all of the following EXCEPT

IV fluids.

intravenous corticosteroid.

intravenous antihistamine.

broad-spectrum antibiotic.

Explanation:

The clinical picture of this patient is that of an anaphylactic reaction to bee stings and is potentially life-threatening. The onset of symptoms within 1 hour after exposure to the allergen is particularly worrisome as are the laryngeal and pulmonary signs. The airway must be established with intubation often necessary; high-flow oxygen, cardiac monitoring, and intravenous fluids are basics. Epinephrine given intramuscularly is the most rapidly acting agent and should be given as soon as possible after the diagnosis of anaphylaxis and every 5 to 15 minutes thereafter as needed. Steroids and antihistamines are slower acting than epinephrine but are often given to alleviate itching, angioedema, and hives. IVF will be given as needed. There is no indication for antibiotics in this clinical situation unless further signs and symptoms develop.

78.

A chronic renal failure patient is sent to the emergency department because his external arteriovenous fistula is not patent. A possible solution to the problem is

infuse fibrinolytics.

surgically remove clot.

repair fistula; insert dual lumen subclavian catheter.

all of the above.

Explanation:

Clotted vascular access devices for chronic renal failure patients undergoing dialysis are not uncommon emergency department cases. Vascular access for these patients may be carried out with a temporary external arteriovenous shunt, or permanent internal arteriovenous fistula or graft. The cephalic vein and radial artery of the forearm are the most often used. Clotting or infection of the access may occur. If a clot impedes smooth vascular flow, it must be lysed with fibrinolytic agents or removed surgically. A temporary dual lumen subclavian catheter may be inserted for 2 to 3 days. If local signs such as swelling, erythema, or tenderness suggest infection, the device is usually removed and cultures and antibiotics prescribed.

79.

Which statement explains abnormal liver function tests in the client with heart failure?

the client may be an alcoholic

the abnormal results may be the result of hepatic vascular congestion

the client has hepatitis

the results are altered from the cardiac drugs the client may have taken

Explanation:

Hepatic congestion is a result of acute or chronic heart failure. The other answers can contribute to an abnormal liver study, but the abnormal results would be considered a result of heart failure without alcoholism, hepatitis, or medications.

80.

Semen samples for DNA evidence in rape cases

cannot be collected from clothing.

may be collected up to 5 to 7 days after the crime in adults.

may be collected up to 2 weeks after in children and adolescents.

may not be stored; must be given to the police directly after collection.

Explanation:

At one time, collection of vaginal semen from rape victims was limited to 48 hours after the crime but, because of increasingly sensitive DNA testing, many jurisdictions have increased this collection period up to 5 to 7 days. In addition, samples for DNA analysis can be collected from clothing and bed linens; the emergency nurse should collect and preserve such items. Potential evidence must be given to the police and appropriate signatures and times from all who handle the evidence must be obtained to preserve chain of custody. Evidence may be stored in a locked closet or cabinet with limited access.

81.

Which of the following is true regarding informed consent?

minors must always have parental consent

nurses should be certain the patient understands the risks, benefits, and alternatives to treatment explained by the physician

parents may refuse life- or limb-saving treatment for their child based on religious grounds

in an emergency when the patient is unable to give consent, only the doctor can decide whether to proceed

Explanation:

Issues of informed consent constantly arise in the emergency department because many patients are incompetent to understand the situation; this may be due to mental illness, altered state of consciousness, or age (minors). Generally, minors require parental consent but exceptions are made for emancipated minors, serious or life-threatening emergencies, or, in some states, if the minor is mature enough to understand the treatment and possible consequences. Parents generally cannot withhold consent for lifesaving treatment on religious grounds. Usually, the emergency physician explains the nature and risks of treatment but the nurse should make sure that this is carried out and witness the patient's signature. Handing the patient an informed consent sheet without explanation may not be enough in many legal jurisdictions. In true emergency situations where the patient is unable to give consent, another authorized person such as a close relative may be satisfactory.

82.

The Emergency Medical Treatment and Active Labor Act (EMTALA) includes the following provisions EXCEPT

participating hospitals have emergency departments and receive funding from Health and Human Services (HHS).

any patient who comes to the emergency department requesting examination or treatment must receive an appropriate medical screening exam to determine if an emergency situation exists.

to transfer an unstable patient, the receiving hospital must accept him or her and the transferring doctor must sign a form stating that the benefits of the transfer outweigh the risks.

verbal patient refusal of examination or treatment absolves the hospital from possible legal penalty.

Explanation:

EMTALA was passed by Congress in 1986 as part of COBRA. Its intent was to prevent "patient dumping" and "economic triage" by hospitals participating in Medicare and receiving federal funds. It applies to all patients seeking emergency treatment whether they are Medicare patients or not. Triage refers to the order in which patients are seen by the physician, not whether or not they require medical examination. The patient must receive a medical screening exam before any disposition is made and the lack of insurance or out-of-plan HMO status is not a basis for transfer or discharge of the patient without medical examination. For unstable patients being transferred to another facility, the receiving hospital must accept the transfer and the emergency physician ordering the transfer must sign an approval note outlining the benefits and risks of the transfer. While a patient may refuse examination and treatment, simple verbal refusal may not be legally sufficient and every attempt should be made to obtain a written refusal, including a statement that the benefits and risks have been explained.

83.

Clues to child abuse include the following EXCEPT

multiple emergency department visits for trauma.

multiple fractures in various states of healing.

scattered scalding of the head, torso, or upper arms.

retinal hemorrhages.

Explanation:

Injuries due to child neglect and/or physical abuse are extremely common in emergency departments. Often the differentiation of a true accident or disease from intentional harm is difficult and falls to the nurse to decide. While cuts and bruises are extremely common in children, multiple bruises, especially on the head, trunk, upper arms, and buttocks, should raise the possibility of abuse. Skeletal trauma suggestive of abuse includes multiple fractures at various stages of healing, posterior or lateral rib or multiple fractures in infants, presence of "grab" marks over a long bone fracture and spiral or oblique fractures. Purposely inflicted burns tend to be discrete and are not widely scattered as in true accidental scalding from spilling of hot liquids. The shaken baby syndrome (with or without direct head trauma) is suggested by multiple retinal hemorrhages. When parental account of the "accident" does not correlate with the physical findings (e.g., multiple fractures from a fall from the couch), or multiple visits for trauma occur, child abuse should be suspected.

84.

Regarding statutory disease and specific trauma reporting to health or law enforcement authorities, it is true that

it is uniform in all states.

it does not include suicide, nonlethal gunshot wounds, or certain communicable diseases.

the nurse shares reporting responsibility with the physician.

the nurse cannot report an event or disease without physician permission.

Explanation:

Individual states have statutes concerning conditions and diseases that must be reported by the emergency department to local law enforcement (homicides, suicides, rapes, child or elder abuse) or to the coroner/medical examiner (unexpected death within 48 hours of admission or during surgery). Communicable diseases such as tuberculosis, HIV/AIDS, or unusual or resistant organisms are reportable to local health authorities and possibly the CDC. Unexpected drug reactions may be reported to the FDA. Since state requirements vary, the list of reportable conditions is kept in the emergency department for quick reference. The nurse shares

responsibility for reporting with the physician and may act independently if the situation warrants. Social services may assume responsibility in certain cases.

85.

In clinical research

a P value of 0.05 means there is a 95% indication the result is not due to chance.

a VII level of evidence is the best possible on a scale of I to VII.

a confidence interval of 95% indicates that 95 out of 100 subjects reacted favorably.

none of the above.

Explanation:

New treatments and protocols are carried out on emergency patients quite frequently. Often the medical staff participates in multi-institutional trials with an established protocol and randomization of patients to the current standard treatment or the new treatment under investigation. Sometimes these studies are "double-blind," in which neither the treating physician nor the patient know which group the latter is in until the study is terminated and the "code broken." Results are often compared statistically to evaluate whether the results of a study are due to chance rather than intervention with the new treatment. The lower the P value, the less likely that the result is due to chance; most clinical researchers accept values less than 0.05 (5%) to indicate that the result is not due to chance. Experimental evidence may be ranked on a scale of I to VII, with I being the most reliable (usually from randomized, controlled studies) and VII being the least (clinical opinions, anecdotal reports). A confidence interval, another statistical method, refers to the degree of precision of the results (i.e., how confident the investigator is that the results are correct).

86.

Which statements is NOT true about dopamine?

it is a vesicant

it produces less instances of unwanted tachycardias than norepinephrine

it increases contractility of the myocardium and increases cardiac output

it increases myocardial workload

Explanation:

Dopamine increases contractility and cardiac output, which improves oxygenation delivery to the tissues. It decreases cardiac workload. Dopamine is a vesicant. It is about 1/10 as likely as norepinephrine in producing tachycardias.

87.

All of the following extracardiac sounds may be heard on auscultation of the heart EXCEPT

pericardial friction rub.

venous hum.

clicks of valves.

clucks of valves.

Explanation:

Clucks are not recognized cardiac sounds. Possible extracardiac sounds include pericardial friction rub, a venous hum, and clicks of valves.

88.

The purpose of the primary assessment in any emergency is to

perform a quick look-see to determine the illness or injury

assess for life-threatening problems that require an immediate intervention

make the client comfortable and remove wet clothing for the assessment

gain a medical and surgical history, including allergies and medication

Explanation:

The primary assessment is done in a systematic way. Identifying a need and performing an intervention are essential before going on to the next step. Assess the airway and then intervene, assess the breathing and then intervene, and so on until you have performed a complete head-to-toe assessment to identify the immediate illness or injury and provided an immediate emergency intervention. Answer a is incorrect because it neglects the intervention aspect of the assessment. Answers c and d are incorrect because they are not aspects of the primary assessment.

89.

Which nursing diagnosis would be appropriate for a client with a cardiac history and shortness of breath?

ineffective tissue perfusion

low fluid volume

ineffective breathing pattern

none of the above

Explanation:

An ineffective breathing pattern would be the appropriate nursing diagnosis from the information given. Shortness of breath is the only symptom revealed. After further work-up, choices a and b may also be appropriate for a nursing care plan, but ineffective breathing pattern applies to shortness of breath.

90.

Which client with a possible cardiac dysrhythmia would require an immediate intervention because of a decrease in cardiac output?

a 22-year-old athlete with a heart rate of 46 at rest who is pink and in no distress

a 42-year-old male with a heart rate of 42 who is pale and clammy

an 82-year-old febrile female with a heart rate of 90

a 15-month-old with a heart rate of 110 who is laughing and playing

Explanation:

The client showing signs and symptoms of a decreased cardiac output (such as being pale and clammy with bradycardia) would require an intervention that may include IV access,

medications, or even pacing the heart rhythm. The other choices appear to be within normal limits for the situations described.

91.

Which rate may indicate possible paroxysmal supraventricular tachycardia from what is understood about normal vital signs?

one hundred thirty beats per minute in a three-year-old

one hundred beats per minute in an adult with anxiety

one hundred and fifty beats per minute in a newborn

one hundred and thirty beats per minute in an adult

Explanation:

A heart rate of 130 beats in an adult could be indicative of paroxysmal supraventricular tachycardia and will need investigation, possible and ECG. If SVT is identified the patient may need an intervention, including vagal maneuvers, medications, or cardioversion. Normal heart rates: Newborn: 120-160; 1-3 years: 80-140; 3-5 years: 80-120; 6- 12 years: 70-110; 13-17 years: 55-105; Adults: 60-100.

92.

Which rhythm would be identified on an ECG/EKG six-second strip by a heart rate of 76 and a PR interval of 0.24, the P:QRS ratio is 1:1, the P and the QRS are normal and regular?

sinus arrhythmia

first-degree atrioventricular block

sinus rhythm

second-degree type I Block

Explanation:

First-degree atrioventricular block is diagnosed partially by an EKG showing a PR interval of greater than 0.20 seconds. In a first-degree atrioventricular block, the P and QRS rhythms are normal, but there is a delay between the P and QRS.

93.

What constitutes the description or definition of ventricular tachycardia?

one or two premature ventricular contractions (PVCs) in a one-minute span

any heart rate over 100

a run of three or more PVCs with or without symptoms

two PVCs together as a couplet

Explanation:

A run of three or more PVCs is considered ventricular tachycardia and may need further intervention. One or two PVCs in a minute can be common and simply require further

monitoring. A heart rate over 100 may be simple sinus tachycardia, or a variety of other arrhythmias, therefore more information would be required.

94.

The initial intervention when a client develops ventricular fibrillation (VF) is which of the following?

perform cardiopulmonary resuscitation (CPR)

defibrillation

doses of epinephrine

doses of atropine

Explanation:

Immediately begin CPR upon noting VF until a defibrillator is available. Once the process of resuscitation is initiated and other team members arrive with a defibrillator and medications, then clients may require intubation, IV medications including epinephrine, and defibrillation. CPR is the immediate intervention before help arrives.

95.

The term for the abdominal emergency best described as a part of the bowel telescoping into or within itself causing a bowel obstruction is which of the following?

large bowel obstruction

small bowel obstruction

intussusception

acute abdomen

Explanation:

Intussusception is a mechanical bowel obstruction most often found in infants and small children. It occurs most often near the ileocecal valve or near a colon tumor or Meckel's diverticulum. It is life threatening and causes compromise to the vascular supply to the gut. It can lead to gangrene and sepsis and requires immediate surgery to correct.

96.

Which one of the following is NOT a cause of acute gastritis?

the use of NSAIDs

excess alcohol consumption

caustic ingestion of foods with excessive seasoning

H. pylori infection

Explanation:

The National Institute of Health lists the following as common causes of acute gastritis: NSAID and alcohol consumption and bacterial infections such as H. pylori. The ingestion of excessively seasoned or spicy foods is not a direct cause of acute gastritis.

97.

Which bacteria may be a leading cause of chronic gastritis?

streptococcus

staphylococcus

Helicobacter pylori

gram-negative bacteria

Explanation:

H. pylori may be present in 30% to 50% of the population and may be a contributing factor in chronic gastritis. Chronic gastritis can lead to ulcers, hemorrhage, perforation, and obstruction.

98.

Which fact is important to remember when dealing with pediatric abdominal trauma patients?

abdominal trauma in the pediatric population is rare

low blood pressure is a late sign of shock in the pediatric population and doesn't appear until a child has lost greater than 25% of their circulating blood

low blood pressure is an early sign of shock in the pediatric population and needs to be addressed immediately upon arrival to the ED

children have a lower percentage of water than body weight and a lower metabolic rate making the acid-base balance difficult to maintain

Explanation:

It is important to remember that a low blood pressure in a child is a late sign of shock and is often not seen until the child has lost 25% of his or her body fluids. It is imperative than that fluid replacement is part of the treatment plan for a child who has sustained any trauma, particularly to the abdomen. A child has a higher percent of water compared to body weight and a higher metabolism, which makes maintaining the acid-base balance difficult. Abdominal trauma is common in children and should not be overlooked when a child complains of stomach pain. Symptoms may appear several hours after the trauma, especially if it is low impact or wasn't reported, as in an injury during gym class or a fall on the playground.

99.

The emergency medical services (EMS) team transports an adult male with chest pain to the ED. They have initiated a large-bore intravenous (IV) line, administered oxygen, and placed the client on the cardiac monitor. Upon arrival to the ED, the initial EKG shows ST deviation in two leads, and the client is pale, clammy, and restless. What is the next intervention the ED nurse should anticipate?

the nurse will give a report to the intensive care unit (ICU)

the nurse will give a large dose of heparin

the nurse will prepare the client for the cardiac catheterization laboratory (cath lab)

the nurse will order a repeat EKG for 8 hours in the future

Explanation:

The goal for any suspected acute coronary syndrome is a time frame of ED door to cath lab or to balloon those arteries to be 90 minutes or less. ST segment deviation in two or more leads usually indicates an acute ischemic event, which requires an angiogram or angioplasty. The nurse may give a report and may order labs and repeat EKGs, but the immediate intervention is to get the client ready for the cardiac cath lab. This may require calling in a cardiac team, undressing the patient completely, and removing jewelry. It may also include any other orders a

cardiologist requires for the patient before the procedure. An ED nurse should be prepared for the possibility of this invasive procedure.

100.

Which is the most common cause of intestinal obstruction requiring an intervention during infancy?

intussusception

pyloric stenosis

obstructive colic

reflux

Explanation:

Pyloric stenosis is the most common obstruction during infancy. It is also known as infantile hypertrophic pyloric stenosis and is diagnosed most often between 3 and 12 weeks of life. Delay in treatment and diagnosis can lead to dehydration, shock, and mortality. The other choices are incorrect.

101.

The most important initial intervention for abdominal trauma is which of the following?

assessing the airway, breathing, and circulation (ABCs)

initiating a large-bore IV for fluid replacement

preparing for a computed tomography (CT) scan of the abdomen

inserting a Foley catheter to assess for urinary output and bladder or kidney injury

Explanation:

Airway and breathing followed by circulation are the most important initial interventions regardless of the type of traumatic injury sustained. Then IV, CT, and other interventions can be initiated, but the ABCs must be addressed first.

102.

Hypocalcemia may result from which acute or chronic abdominal condition?

appendicitis

pancreatitis

hepatitis

gastritis

Explanation:

Pancreatitis may cause hypocalcemia due to the release of lipase into the soft tissue. This binds with the calcium and causes a decrease in ionized calcium during this process. The other conditions do not directly relate to hypocalcemia in this way.

103.

A patient presents to the ED with acute abdominal pain, nausea, and vomiting. Which of the following tests would cause the nurse to suspect pancreatitis?

WBC count of 5.0

hematocrit (HCT) of 40%

WBC count of 28.0

lipase 500 U/L

Explanation:

The serum Lipase level is normally 30-210 U/L. An elevation greater than two times the normal value is suspect for pancreatitis and can be used along with other diagnostic tests and clinical information to make a diagnosis. An elevated WBC count would be indicative of infection or inflammation, but not specific to pancreatitis. The WBC count of 5.0 is normal.

104.

Which medical intervention is appropriate for a client with a possible bowel obstruction after the ABCs have been established and an IV has been initiated?

place the patient on bedrest

insert a nasogastric (NG) tube and attach to suction

order a clear liquid tray

massage the abdomen

Explanation:

It would be most appropriate to insert an NG tube and attach it to suction. The other choices would not be appropriate for a newly diagnosed client with an acute abdomen.

105.

Which pharmacologic agent would be appropriate for an adult client with pancreatitis who is in severe pain?

Compazine

aspirin

narcotics, avoiding morphine if possible

gentamicin

Explanation:

Narcotics may be used for pain with pancreatitis. Aspirin would not be appropriate due to the gastric irritability that it may cause. Compazine is an antiemetic and is not used for pain.

106.

The pain of acute diverticulitis can be described as dull or cramping. Where is the pain most likely to be located with an acute episode?

right lower quadrant (RLQ)

right upper quadrant (RUQ)

left lower quadrant (LLQ)

left upper quadrant (LUQ)

Explanation:

The pain of diverticulitis begins as a general discomfort localizing to the LLQ. The other choices are not correct.

107.

A client with bleeding esophageal varices is at risk for severe hemorrhage and even death. What specific emergency procedure should the nurse be prepared to assist with in the case of uncontrolled esophageal bleeding?

insertion of a nasogastric tube for suction

intubation and a Sengstaken-Blakemore tube

administering an IV

doing a type and cross match for blood

Explanation:

For uncontrolled bleeding, intubation and a Sengstaken-Blakemore tube to create a mechanical tamponade are appropriate. The IV, nasogastric tube, and type and cross match should already have been done or will be done while preparing for this emergency procedure. The ABCs take first priority in the care of the patient, so protecting the airway and stopping the bleeding will be the immediate interventions for a client with uncontrolled bleeding.

108.

An 8-year-old presents to the ED with bloody diarrhea, abdominal pain, fever, and vomiting. On history, the mother mentions the child cleaned out his pet turtle's cage yesterday before lunch time. What is the nurse beginning to suspect?

Campylobacter jejuni

Clostridium difficile

Yersinia enterocolitica

Nontyphoidal *salmonella*

Explanation:

While all of the bacteria listed can cause diarrhea, the history listed regarding the turtle, a known vector of salmonella, may indicate this being the offending bacteria. Symptoms usually appear 12-72 after infection. Neither Campylobacter jejuni nor Clostridium difficile usually present with bloody diarrhea. Though Yersinia enterocolitica may present with bloody diarrhea, it is usually green and foul.

109.

A 45-year-old man is admitted to the emergency department after a bout of bloody vomiting. He is noted to be mildly hypotensive with slight scleral icterus, palmar erythema, and hepatomegaly. There is no history of aspirin or NSAID use but he does admit to long-term alcohol abuse. The most likely source of the bleeding is:

gastric ulcer

esophageal varices

gastric cancer

angiodysplasia

Explanation:

Upper gastrointestinal bleeding is a very common emergency and usually requires prompt treatment. This man almost certainly has cirrhosis of the liver and is bleeding from esophageal varices. This is a complication of the portal hypertension that develops in these patients with ultimate rupture of the esophageal veins. Bleeding is often brisk and must be controlled, usually by endoscopic band ligation or sclerotherapy. Bleeding from a gastric or duodenal ulcer is usually less dramatic and results from mucosal damage caused by anti-inflammatory drugs or Helicobacter pylori that render the mucosa more sensitive to gastric acid. Erosion into a blood vessel causes the bleeding but it is most often slow and detected by stool occult blood tests. Gastric cancer may also be a source of upper gastrointestinal bleeding but it is rarely associated with vehement vomiting of blood and the bleeding may be intermittent. Angiodysplasia refers to dilated and tortuous blood vessels. Bleeding is from a lower gastrointestinal venous source, usually in the cecum or ascending colon.

110.

Which factors about troponin levels are important to consider when caring for a client being evaluated for an acute myocardial infarction (MI)?

troponin level is not the most important factor when caring for a client with an acute MI

troponin levels elevate 3 to 12 hours after MI onset

troponin levels are specific to MI clients only

troponin levels will elevate in unstable angina as well as in an MI

Explanation:

Troponin levels are elevated 3 to 12 hours after an acute onset of MI. Answer A is incorrect because troponin levels have taken the place of enzymes as cardiac biomarkers. However, troponin levels can also elevate in other disease states, including renal failure, making answer C incorrect. Answer D is incorrect because troponin levels actually help to distinguish between unstable angina (UA) and MI. Troponin levels do not elevate in UA.

111.

A 45-year-old woman is brought to the emergency department complaining of acute, severe midabdominal pain, radiating from the epigastrium to the mid-back. There is marked guarding of the abdomen and mild abdominal distention is present. She denies alcohol abuse or prior abdominal surgery. There has been no recent change in her bowel habits. Bowel sounds are markedly diminished. What is the most likely diagnosis and the laboratory or imaging test to establish the diagnosis?

acute pancreatitis and serum amylase

small bowel obstruction and plain films of the abdomen

acute cholecystitis and ultrasound of the gall bladder

acute appendicitis and CT of the abdomen

Explanation:

This woman's signs and symptoms are typical of acute pancreatitis but other causes of acute and severe abdominal pain must be considered. The most likely cause of pancreatitis in this

woman without a history of alcoholism would be gallstones, which can result in ductal hypertension and pancreatic enzyme activation. Serum amylase is nearly always markedly elevated as is the lipase, which tends to remain elevated longer. Ultrasound of the abdomen may disclose gallstones and CT reveals pancreatic edema. Acute cholecystitis is a possibility but can usually be ruled out by ultrasonography. Bowel obstruction would be uncommon with no history of prior abdominal surgery leading to adhesions, diminished bowel sounds, and no change in her usual bowel movement pattern. The pain pattern is unusual for appendicitis but anatomic position of the appendix may cause atypical pain. This possibility may usually be ruled out by abdominal CT.

112.

A 30-year-old man comes to the emergency department with the acute onset of left flank pain radiating to the groin. Microscopic hematuria is present on urinalysis. What is the most likely diagnosis?

ureteral calcium oxalate calculus

ureteral cystine calculus

testicular torsion

cystitis

Explanation:

Ureteral calculi are a quite common cause of acute emergency evaluation, usually causing flank pain with radiation to the back and/or groin. About 75% of these are calcium oxalate or phosphate; less common are struvite, uric acid, or cystine calculi. While KUB or ultrasound may show the stone, helical CT is now the preferred diagnostic method. Additional workup includes CBC, chemistry panel, urinalysis, and straining of urine to catch a passed stone for chemical analysis. Nursing attention should be directed to intravenous hydration with input and output recording and narcotic or narcotic plus NSAID (e.g., ketorolac) administration for pain. Some patients may be discharged with analgesics and instructions for hydration and calculus capture. Testicular torsion is most common in adolescents and usually presents with testicular and groin pain with abdominal radiation; increasing pain by lifting the scrotum to the level of the

pubic symphysis causes exacerbation of the pain (Prehn's sign). Cystitis may be infectious or drug–induced, but cystitis usually causes dysuria and pyuria and shows positive urine cultures.

113.

A young woman with a history of lupus and recent aminoglycoside treatment of an infection develops nausea, extreme fatigue, and poor urinary output. Her serum creatinine is 4.5 mg/dL and urine output is severely diminished. An ECG shows peaked T waves, prolonged PR interval, and a slightly widened QRS complex. Which of the following would be appropriate emergency therapy?

intravenous calcium

intravenous glucose and insulin

both A and B

neither A nor B

Explanation:

This woman with lupus may already have compromised renal function and treatment with a nephrotoxic agent such as an aminoglycoside may provoke acute renal failure (ARF). In this situation, the urine output diminishes to less than 0.3 mL/kg/h for 24 hours; sometimes the patient is anuric. The serum creatinine rises sharply to 3 times normal or greater than 4 mg/dL, indicating a diminution in glomerular filtration by 75%. The ECG findings strongly suggest hyperkalemia, a characteristic accompaniment of ARF. Hyponatremia, hypocalcemia, and hyperphosphatemia, along with volume overload, are also characteristic fluid and electrolyte abnormalities of ARF. Immediate intravenous calcium will stabilize the myocardial cell membranes for a short time, decreasing the likelihood of arrhythmia, while glucose and insulin drive the potassium from the extracellular to the intracellular fluid with an onset of action of 5 to 30 minutes and lasting up to 4 hours. An oral or rectal cation exchange resin (Kayexalate) and emergency dialysis are longer term methods of hyperkalemic treatment.

114.

While assessing a trauma patient, the nurse finds the client complaining of flank pain where there is also bruising noted. What intervention should the nurse be ready to perform because of these signs of injury?

a CT scan of the client's head

a urinalysis and a complete blood count (CBC)

offer oral fluids to promote hydration

administer oxygen

Explanation:

Flank pain and bruising may indicate an injury to the kidney. It would be appropriate to get a urinalysis to test for blood and a CBC to determine how much bleeding may be taking place. The other choices may or may not be necessary for the complaint of flank pain.

115.

An important concept when evaluating for traumatic genitourinary injuries for both children and adults would be which of the following?

keep the client dressed to protect privacy and avoid direct observation

assess the genitourinary system last, as it is the least important

undress the client while protecting his or her privacy and directly observe the genitals for injury

never insert a Foley catheter unless absolutely needed because of the risk for infection

Explanation:

It is always the best practice to undress a client, provide privacy with a gown and sheet, and directly observe for traumatic injury. Genitourinary injuries are very important and can be a source for bleeding, so this assessment should not be saved for last.

116.

A client presenting to the ED complaining of flank pain, diaphoresis, and nausea may be experiencing which genitourinary emergency?

MI

kidney stones

testicular torsion

ovulation

Explanation:

The symptoms described would indicate a kidney stone; flank pain is the hallmark for renal calculi. An MI is not a genitourinary emergency. Ovulation would cause pelvic pain. Torsion would not cause flank pain. Testicular torsion causes scrotal pain.

117.

Acute renal failure developing over a short period of time is the result of which of the following?

calcium buildup

fluid overload

increase in nitrogenous waste products circulating

decrease in potassium circulating

Explanation:

Acute renal failure is the result of an increase in nitrogenous waste products due to infection, sepsis, shock, or other significant medical emergencies.

118.

Which prerenal sign will the ED nurse recognize as the first indication of acute renal failure needing an immediate intervention?

an increase in renal blood flow

a prolonged period of hyperperfusion

a prolonged period of overhydration

a decrease in renal blood flow and ischemia

Explanation:

A decrease in renal blood flow and ischemia are indications that acute renal failure can follow. Renal calculi, trauma, or a newly diagnosed mass can all lead to renal failure as can a cardiac arrest, sepsis, or any acute medical condition that caused a decrease in blood flow to vital organs for a short time.

119.

At what age are boys at the most risk for testicular torsion?

the first year of life

the ages of five to seven years

the risk for testicular torsion is minimal at any age

the ages of seven to nine years

Explanation:

The first year of life for boys is when they are the most susceptible to torsion of the testicle.

120.

Children are at a higher risk for kidney injury than adults. Which statement best explains this fact?

Children are more active than adults.

Children do not hydrate appropriately.

The incomplete ossification of the 10th and 11th ribs during childhood.

Children have kidneys that are three times the normal size of adult kidneys.

Explanation:

The incomplete ossification of the ribs allows the kidneys to be targets when a child suffers trauma. The kidney of a child is not three times larger than that of an adult but is larger in percentage of body size than that of an adult. The other choices are incorrect.

121.

Which factor is NOT a risk for heart disease but also should not be excluded when considering the diagnosis of MI when a client presents with chest pain?

age greater than 65

nonsmoking female

smoking any gender

obesity

Explanation:

A nonsmoking female may not have any risk factors, but a female complaining of chest pain should be evaluated for an acute cardiac problem, like any client with risk factors. Females present with different symptoms when having an MI and may not have classic symptoms, and they may also have an MI without having risk factors. The other answers are all risk factors for cardiac disease and acute cardiac syndromes.

122.

What is the most common symptom of a UTI?

fever

dysuria

cloudy urine

fruity odor of urine

Explanation:

Dysuria is the most common symptom of a UTI. The fever may or may not be from the urinary tract, and cloudy urine may indicate dehydration. A fruity odor to the urine may indicate the presence of sugar or diabetes.

123.

Pyelonephritis is a serious infection that can lead to what complications during pregnancy?

cystitis

fever

bleeding

preterm labor and preeclampsia

Explanation:

Preterm labor and preeclampsia are complications of pyelonephritis that may be serious to both mother and child.

124.

The immediate nursing interventions for a client presenting to the ED with urinary complaints including flank pain would include which of the following?

obtain a urine specimen and initiate IV fluids

urinalysis, IV, and pain control

observe for fever

encourage oral fluid intake

Explanation:

After the ABCs are checked, the next things to be done with a client complaining of flank pain would be a urine test to detect blood, an IV for fluids, and medications for pain. The client would be kept NPO in case the flank pain is a kidney stone requiring surgery. Observation should be accompanied by offering pain control.

125.

Which condition would be considered a true urologic emergency requiring surgical intervention?

renal calculi

UTI

bladder tumor

testicular torsion

Explanation:

Testicular torsion needs surgical intervention within six hours to preserve the testicle. The other choices are not so critical.

126.

An adult male presenting to the ED with complaints of pain in the scrotum, a "duck waddle" gait, and fever may have what genitourinary emergency?

priapism

epididymitis

inguinal hernia

UTI

Explanation:

The classic "duck waddle" indicates the client's attempt to avoid touching the scrotum while walking. This is a common indication of epididymitis. The other conditions would not cause this type of gait.

127.

Which condition is the most emergent for a mother and fetus during the second and third trimesters of pregnancy?

multiple fetuses by ultrasound

placenta previa

UTI

abruptio placenta

Explanation:

Abruptio placenta is the most critical condition and is the cause of 15% of fetal deaths. Mother and infant may suffer blood loss and shock.

128.

What are the classic symptoms of abruptio placenta to note when assessing a pregnant client presenting to the ED with bleeding?

hyperglycemia

hypertension

vaginal bleeding and uterine tenderness

emesis

Explanation:

Vaginal bleeding and uterine tenderness are the hallmark signs of abruptio placenta. Dark vaginal bleeding and uterine pain warrant an ultrasound, IV fluids, and an immediate Cesarean section (C-section).

129.

What is the most important element of neonatal resuscitation?

keeping the infant warm

maintaining a glucose level of greater than 45

maintaining cardiac compressions of greater than 90

establishing an adequate airway and administering oxygen

Explanation:

The other choices may be appropriate at some point, but the initial and most important step in resuscitation is to establish an adequate airway.

130.

Which obstetric emergency is the leading cause of maternal death due to hemorrhagic shock?

multiple births with retained placenta

ruptured ectopic pregnancy implanted in the fallopian tube

pelvic inflammatory disease (PID)

placenta previa

Explanation:

A ruptured ectopic pregnancy may cause maternal death due to blood loss, shock, and subsequent cardiac arrest of the mother.

131.

Which symptoms are recognized as a positive indication of preeclampsia-eclampsia?

low liver enzymes, abdominal pain, edema

low blood pressure, proteinuria, edema

high blood pressure, proteinuria, edema

high platelet count, abdominal pain, edema

Explanation:

High blood pressure, proteinuria, and edema are the positive symptoms for preeclampsia and eclampsia.

132.

An elderly female client presents to the ED with complaints of chest pain and a history of angina. After the initial triage, what would be the next appropriate interventions?

cardiac monitor, oxygen, and sublingual nitroglycerin

cardiac monitor, sublingual nitroglycerin, and Foley catheter

cardiac monitor, IV, oxygen, and sublingual nitroglycerin

oxygen, sublingual nitroglycerin, and Foley catheter

Explanation:

A cardiac monitor, oxygen, and an IV should be in place for anyone complaining of chest pain and before administering nitroglycerin, especially in an elderly client, who may develop hypotension quickly. When a client does not respond to sublingual nitroglycerin, it indicates possible unstable angina and may require other interventions to relieve the pain.

133.

What symptoms may occur in late eclampsia that can be life threatening?

proteinuria

seizures

hemolysis

headache

Explanation:

Seizures and coma may be the result of eclampsia. The best prevention of this dangerous progression is the birth of the fetus through c-section.

134.

The seriousness of hyperemesis gravidarum is related to which side effect/s?

weight loss, dehydration, low thiamine

obesity, low thiamine, high potassium

overhydration, hyponatremia, edema

high potassium, low magnesium, edema

Explanation:

The seriousness of hyperemesis gravidarum is related to weight loss, dehydration and low thiamine. Obesity, high potassium, overhydration, hyponatremia, edema, and low magnesium are not likely.

135.

The initial steps for neonatal resuscitation include which of the following?

drying and doing chest compressions