M_CPHONPQ (300+ Questions) - Quiz Questions with Answers

1.

When red blood cells are administered to children, the nurse should verify that they have been:

both irradiated and leukocyte-reduced.

irradiated only.

leukocyte-reduced only.

neither irradiated nor leukocyte-reduced.

Explanation:

When red blood cells are administered to children, the nurse should verify that they have been both irradiated and leukocyte-reduced. Additionally, red blood cells must be ABO compatible. Pediatric patients usually receive transfusions of 10 to 15 mL/kg within a 4-hour period. The goal is usually to increase the hemoglobin by 2 to 3 g/dL. Red blood cells are administered with symptomatic anemia: pallor, shortness of breath, weakness, tachycardia, tachypnea.

2.

According to the National Cancer Institute CTCAE Scoring for Oral Mucositis, a patient with severe pain that interferes with eating is classified as:

Grade 1.

Grade 2.

Grade 3.

Grade 4.

Explanation:

According to the National Cancer Institute CTCAE Scoring for Oral Mucositis, a patient with severe pain that interferes with eating is classified as Grade 3.

Grade 1 No symptoms or only mild symptoms.

Grade 2 Moderate pain but does not interfere with oral intake.

Grade 3 Severe pain that interferes with oral intake.

Grade 4 Life-threating, unable to swallow.

Death --

3.

Which type of tumor may be associated with anabolic steroids?

Hepatocellular carcinoma.

Fibrosarcoma.

Hepatic blastoma.

Nasopharyngeal carcinoma.

Explanation:

Hepatocellular carcinoma may be associated with the use of anabolic steroids, especially for long periods of time. In patients younger than 15, this type of tumor is usually associated with infection with hepatitis B. Presenting symptoms often include abdominal distention and discomfort, GI upset (nausea, vomiting), and jaundice. Treatment usually includes chemotherapy and surgical excision although complete resection of the tumor is difficult to achieve so some residual usually remains. Survival rates are low, 10 to 20%.

4.

Mesna may be mixed with cyclophosphamide as a(n):

rescue agent.

bone marrow protective agent.

anticonvulsant.

uroprotective agent.

Explanation:

Mesna may be mixed with cyclophosphamide as a uroprotective agent. Mesna may also be mixed with ifosfamide. Mesna prevents chemotherapy-associated hemorrhagic cystitis. Mesna is inactive in the blood but active in the kidneys. Both cyclophosphamide and ifosfamide produce the metabolite acrolein, which is toxic to the bladder. Mesna is able to bind to and inactivate this metabolite. Patients should be advised to drink ample fluids and to urinate frequently in the first day after receiving chemotherapy.

5.

The most appropriate nursing diagnosis for a patient with neutropenia and absolute neutrophil count (ANC) of 900 is:

risk for injury.

risk for aspiration.

risk of infection.

ineffective coping.

Explanation:

Patients with neutropenia are at risk for both exogenous and endogenous infection. Total ANC should be 1800 to 2000 mmm^3 or higher. Risk of infection is significant if the level falls to 1000 and severe at 500. ANC is not calculated indirectly from the total white count and the percentages of neutrophils and bands:

- *ANC = Total WBC x (% neutrophils + % bands/100)*

If, for example, the white count is 5300 with 12% neutrophils and 2% bands, neutropenia is evident despite the normal WBC:

- *ANC = 5300 X 13/100 = 689*

6.

If the child is receiving chemotherapy that includes an anthracycline, which test(s) should be carried out routinely?

Electrocardiogram.

Echocardiogram

Cardiac enzymes.

Cardiac CT.

Explanation:

If the child is receiving chemotherapy that includes an anthracycline, echocardiograms (a form of ultrasound) should be carried out routinely because of the cardiotoxicity of anthracyclines. The test usually takes 30 to 60 minutes and requires that the child be able to remain still. The echocardiogram that determine the cardiac blood flow and ejection fraction as well as abnormalities in function and structure. An echocardiogram is usually done as a baseline initially and then 6 to 12 months after treatment is completed.

7.

In preparation for hematopoietic stem cell transplantation (HSCT), a patient receives alemtuzumab (a monoclonal antibody) in order to:

deplete circulating lymphocytes.

reduce the risk of infection.

eradicate tumor cells.

reduce the side effects of other agents.

Explanation:

In preparation for hematopoietic stem cell transplantation (HSCT), a patient receives alemtuzumab (a monoclonal antibody) in order to deplete circulating lymphocytes. Alemtuzumab binds to an antigen (CD52) on the surface of lymphocytes and causes antibody-dependent lysis of the cell, reducing the lymphocyte cell count in the blood and bone marrow. Because of the waste products associated with lysis, adverse effects, such as hypotension, fever, chills, rash, and bronchospasm are common.

8.

To assess a child's level of development, the Ages and Stages Questionnaire is usually completed by the:

child.

psychologist.

nurse.

parent/caregiver.

Explanation:

To assess a child's level of development, the Ages and Stages Questionnaire is usually completed by a parent/guardian with intimate knowledge of the child. The Ages and Stages Questionnaire is available in different versions for different ages. For example, the questionnaire for 18-month-old children asks the parent/guardian to report on activities and to try a number of different activities and then to note if the child carries out an action (such as pointing at something the child wants) routinely (yes), sometimes, or not yet. Areas of questions include communication, gross motor activity, fine motor activity, problem-solving, personal social, and overall functioning.

9.

The primary use for colony-stimulating factors (CSF) in treatment of cancer is to:

stimulate the production and growth of lymphocytes.

interfere with cancer cell growth.

stimulate production of various blood cells in the bone marrow.

diagnose specific types of cancer.

Explanation:

Colony-stimulating factors (AKA hematopoietic growth factors) stimulate the bone marrow to produce various blood cells for those who are immunosuppressed because of chemotherapy or bone marrow transplant. For example, filgrastim and pegfilgrastim stimulate production of neutrophils to increase resistance to infection and sargramostim stimulates progenitor cells and activates mature granulocytes and macrophages. Other colony-stimulating factors stimulate production of red blood cells and platelets. However, erythropoietin, which was commonly used to increase red blood cell production, may also increase mortality, so use has decreased.

10.

Criteria for engraftment after HSCT includes:

ANC >1000, platelets >30,000

ANC >1000, platelets >50,000

ANC >250, platelets >10,000.

ANC >500, Platelets >20,000.

Explanation:

Criteria for engraftment after HSCT includes ANC over 500 for 3 days in a row and platelets over 20,000 (without transfusion). Engraftment occurs when the hematopoietic progenitor cells have engrafted the bone marrow, spread, and begun to produce hematopoietic cells. The time from transplantation to engraftment varies but usually takes about 30 days. White blood cells are usually produced before platelets. Once red blood cells are produced, the patient's blood type becomes that of the donor (which may or may not be different).

11.

Rituximab, a monoclonal antibody, binds to the CD20 antigen on:

B cells.

T cells.

plasma cells.

Hematopoietic stem cells.

Explanation:

Rituximab (Rituxan®), a monoclonal antibody, binds to the CD20 antigen on B cells, resulting in a rapid decrease in B cells in the tissue. In children, rituximab may be used as part of treatment for B cell ALL and Burkitt's lymphoma as well as hematological disorders, such as ITP. Rituximab must be administered per IV infusion and patient monitored carefully for infusion reaction and tumor lysis syndrome. Patients are usually pretreated with acetaminophen or an antihistamine.

12.

The blood type that is considered a universal recipient is:

AB-.

AB+.

O-.

O+.

Explanation:

The blood type that is considered a universal recipient is AB+ because in emergencies, a patient may receive any ABO type of blood, RH- or RH+. However, AB blood types can only donate to other AB blood types. Type O- is considered the universal donor although in practice blood type is usually always matched to reduce the chance of error. Type O+ is the most common blood type in the United States and AB- is the least common.

13.

If a patient with spinal cord metastasis has increasing back pain, weakness of the lower extremities, and fecal and urinary incontinence, the nurse anticipates which of the following treatments?

Glucocorticoids and radiation.

Glucocorticoids only.

Radiation only.

Supportive care only.

Explanation:

If a patient with spinal cord metastasis has increasing back pain, weakness of the lower extremities, and fecal and urinary incontinence, the nurse anticipates that the patient will receive glucocorticoids to help to reduce edema that may be compressing tissue and radiation to reduce the tumor mass. Most spinal cord metastases are from sarcomas. Back pain is the most common complaint but weakness and paralysis may develop as the compression worsens. Treatment may not be curative but it can often relieve pressure on the spine and relieve symptoms.

14.

At which developmental stage is the desire to be independent the key characteristic?

Adolescence.

Pre-adolescence.

School age.

Preschool.

Explanation:

Adolescence is the developmental stage in which the desire to be independent is the key characteristic. The adolescent should be included in all discussions and decision making even though the legal authority to make decisions lies with the parents. The adolescent should be encouraged to participate in care and to make decisions. For example, the adolescent may utilize a pain pump in order to feel in control of pain management. Adolescents are particularly concerned about body image, so issues, such as alopecia or weight loss, may be particularly distressing.

15.

If a child with a brain tumor exhibits speech difficulties (forgetting words), short-term memory loss, and seizures, the nurse recognizes that the most likely site of the tumor is the:

frontal lobe.

parietal lobe.

temporal lobe.

cerebellum.

Explanation:

If a child with a brain tumor exhibits speech difficulties (forgetting words), short-term memory loss, and seizures, the likely site of the tumor is the temporal lobe. Headache is common with any type of brain tumor. Different types of tumors tend to occur in different parts of the brain. Gangliogliomas, for example, can occur anywhere within the brain but are most common in the temporal lobe. Treatment of pediatric brain tumors is more difficult than adult tumors because the brain is still developing.

16.

The most common infectious complication of HSCT in the early period (first 2 to 3 weeks) after transplantation is:

cytomegaloviral infection.

Gram-positive bacterial infection.

candidal infection.

Pneumocystis jiroveci pneumonia.

Explanation:

The most common infectious complication of HSCT in the early period (first two to three weeks) after transplantation is Gram-positive bacterial infection. Therefore, it's important that patients receive antibiotic prophylaxis until engraftment. The viral infection most common during this early period is reactivation of herpes simplex virus. Cytomegalovirus infections and Pneumocystis jiroveci pneumonia usually occur within 2 to 4 months and candidal infection within 1 to 2 months.

17.

If a patient receiving chemotherapy has developed severe oral and esophageal candidiasis, which of the following treatments does the nurse anticipate?

Fluconazole.

Dilute acetic acid mouth rinse.

Clotrimazole.

Nystatin.

Explanation:

If a patient receiving chemotherapy has developed severe oral and esophageal candidiasis, the nurse anticipates treatment with fluconazole. Mild to moderate candidiasis may be treated with clotrimazole or nystatin. Candidiasis (AKA thrush) is characterized by soreness and white cheesy patches in the mouth and throat. Patients typically complain of loss of taste and pain

when swallowing. If the lesions extend to the esophagus, the patient will likely have difficulty swallowing and increased pain.

18.

Iodine-131 metaiodobenzylguanidine (I-131 MBIG), which is similar to norepinephrine, is used to treat:

ALL.

non-Hodgkin lymphoma.

neuroendocrine tumors.

Ewing sarcoma.

Explanation:

Iodine-131 metaiodobenzylguanidine (I-131 MBIG), which is similar to norepinephrine, is used to treat neuroendocrine tumors, such as neuroblastoma that has not responded to treatment. MBIG is combined with radioactive iodine (I-131) and provides targeted radiotherapy because MBIG is absorbed by some types of nerve cells. I-131 MBIG is administered in lead-lined rooms with radiation shield and equipment and surfaces in the room covered with plastic to protect them from the child's body fluids.

19.

Which of the following antiemetics may induce extrapyramidal effects?

Ondansetron.

Metoclopramide.

Palonosetron.

Aprepitant.

Explanation:

The antiemetic that may induce extrapyramidal effects is metoclopramide. Others include phenothiazines (prochlorperazine, chlorpromazine, and promethazine). A single dose of metoclopramide may induce dystonia (uncontrolled movements) and akathisia (urge to move, fidget). Long-term use may result in tardive dyskinesia and/or Parkinsonism. Symptoms may resolve over time or may remain permanently, so medication should be discontinued at the first indications of extrapyramidal effects.

20.

Which of the following biologic response modifiers activates natural killer cells?

Monoclonal antibodies.

Hematopoietic growth factors.

Interleukins.

Interferons.

Explanation:

The biologic response modifier that activates natural killer cells is interferons (which are cytokines). There are 3 classes of interferons: alpha, beta, and gamma. Interferon alpha-2B

(developed in a laboratory) is most commonly used in the treatment of malignancies. Interferons have an antiproliferative effect on cancer cells and reduce the risk of viral infection by improving immune response. Side effects commonly include flu-like symptoms, but adverse effects in children tend to be less severe than in adults.

21.

For severely immunocompromised patients, irradiated blood products are administered to avoid:

transfusion-associated GVHD.

acute hemolytic reaction.

hypersensitivity reaction.

febrile nonhemolytic reaction.

Explanation:

For severely immunocompromised patients, irradiated blood products are administered to avoid transfusion-associated GVHD. Irradiation of blood products inactivates T-lymphocytes, preventing them from dividing. RBCs, whole blood, and granulocytes can all be irradiated, but FFP and cryoprecipitate do not require irradiation. Transfusion-associated GVHD usually occurs 10 to 15 days following transfusion and is fatal in 9 out of 10 patients, but it is rare in patients who are not immunocompromised. The lymphocytes in untreated blood products attack tissues, such as the bone marrow, causing profound pancytopenia.

22.

Most patients who experience a relapse after HSCT do so within:

two months.

one year.

two years.

three years.

Explanation:

Most patients who experience a relapse after HSCT do so within one year. Those who were in remission prior to the HSCT tend to have lower risk of relapse (15% to 40%) than those who had advanced disease (up to 80%). Prognosis after relapse tends to be poor although some centers will do a second HSCT if the patient is in remission after treatment. Outcomes tend to be better if the condition is detected very early with minimal or measurable disease and interventions carried out.

23.

A patient with chemotherapy-induced hepatitis develops marked hyperbilirubinemia. The nurse anticipates which of the following treatments?

Phototherapy.

Transfusion.

Ursodiol.

Acyclovir.

Explanation:

If a patient with chemotherapy-induced hepatitis develops marked hyperbilirubinemia, the nurse anticipates treatment with ursodiol, a bile acid that is used for some types of liver disease as well as to dissolve and prevent gallstones. Common side effects associated with ursodiol include GI upset (diarrhea, nausea, vomiting), alopecia, cough, dizziness, and back pain. Hepatotoxicity is common with chemotherapeutic agents, and hepatitis B and C may reactivate. Symptoms of chemotherapy-induced hepatitis may range from very mild to severe.

24.

The primary purpose of an institutional review board (IRB) regarding clinical trials is to:

reduce institutional liability.

establish protocols for treatment.

protect the rights of subjects.

outline requirements for subject participation.

Explanation:

An institutional review board (IRB) is a committee within an institution that is charged with reviewing research projects involving human subjects. The primary purpose of an institutional review board (IRB) regarding clinical trials is to protect the rights of subjects and ensure that they do not experience psychological or physical harm as a result of the research. The IRB also ensures that the research is carried out ethically, regulatory guidelines are followed, and subjects have informed consent and understand their rights.

25.

Somatic-cell gene transfer is commonly used for treatment rather than germ-cell gene transfer because:

it is easier and less costly to carry out.

toxicity reactions are less common.

it changes genetic inheritance.

it does not change genetic inheritance.

Explanation:

Somatic-cell gene transfer is commonly used for treatment rather than germ-cell gene transfer because somatic-cell gene transfer does not change genetic inheritance. With somatic-cell gene transfer, altered genes are inserted into nonreproductive cells so they affect the target cells only. The altered genes must be attached to a vector, often a virus, that is able to transport the altered gene through the cell membrane of target cells. Germ-cell transfers, in which altered genes are inserted into sperm or ova, remain an ethical concern.

26.

If a child receives filgrastim (Neupogen®) daily beginning 24 hours post-chemotherapy treatment and continuing until 24 hours before the next treatment, the nurse understand that the purpose of the drug is to:

promote growth of macrophages.

prevent bone marrow suppression.

promote growth of neutrophils.

alleviate generalized cytotoxic effects of chemotherapy.

Explanation:

If a child receives filgrastim (Neupogen®) daily beginning 24 hours post-chemotherapy treatment and continuing until 24 hours before the next treatment, the nurse understands that the purpose of the drug is to promote growth of neutrophils. Adverse effects include flu-like symptoms, tachypnea, dyspnea, and capillary leak syndrome. Pegfilgrastim is a similar drug but has an extended half- life, so it need only be administered one time each cycle rather than daily. Sargramostim, another type of growth factor, promotes growth of both neutrophils and macrophages.

27.

If a patient receiving chemotherapy develops oral mucositis, the nurse anticipates that the symptoms will peak in how many days?

1 to 3.

4 to 5.

6 to 7.

7 to 14.

Explanation:

If a patient receiving chemotherapy develops oral mucositis, the nurse anticipates that the symptoms will peak in 7 to 14 days. The patient may develop inflammation and mouth ulcers. Onset usually begins shortly after initiation of therapy and resolves within 14 to 21 days. If the pain is severe, the patient may be unable to swallow foods and is at risk for accelerated weight loss. Some patients may require modification of therapy to alleviate symptoms.

28.

Angiogenesis inhibitors are important in the treatment of solid tumors because they:

prevent thrombus formation.

block new vascular growth.

prevent tumor cell replication.

promote production of cytotoxins.

Explanation:

Angiogenesis inhibitors are important in the treatment of solid tumors because they block new vascular growth. Tumors need a good blood supply for nourishment in order to continue to grow and to metastasize, and so they produce chemicals that stimulate formation of new vessels to ensure a growing blood supply. Additionally, tumor cells stimulate adjoining normal cells to do the same. When this process is blocked, the tumor is literally starved and unable to grow.

29.

If a child who is receiving chemotherapy and is immunocompromised but has no immunity to varicella zoster is exposed to another child with the infection, the nurse anticipates that the treatment of choice will be:

IVIG.

acyclovir.

TMP-SMZ.

famciclovir.

Explanation:

If a child who is receiving chemotherapy and is immunocompromised but has no immunity to varicella zoster is exposed to another child with the infection, the nurse anticipates that the treatment of choice will be IVIG. The IVIG infusion should be administered as soon as possible after the child is exposed but no later than 96 hours or it will not be effective. If the child develops chicken pox, then the child should receive acyclovir for 7 days if receiving treatment for cancer.

30.

A patient with severe diarrhea has been diagnosed with *Clostridium difficile* infection. The nurse anticipates which of the following treatments?

Fecal transplant.

TMP-SMZ.

Vancomycin.

Ciprofloxacin.

Explanation:

If a patient with severe diarrhea has been diagnosed with Clostridium difficile infection, the nurse anticipates treatment with vancomycin or metronidazole. Clostridium difficile is an anaerobic Gram-positive bacillus that produces endospores. Normal intestinal flora provide resistance to C. difficile; but, if the flora is disrupted by antibiotics or chemotherapeutic agents, then C. difficile can begin to overgrow. C. difficile produces a lethal cytotoxin (Toxin B) and an endotoxin with cytotoxic action (Toxin A) that causes fluid to accumulate in the colon and severe damage to mucous membranes.

31.

If a patient with a brain tumor develops cranial nerve deficits that include facial numbness, poor blink reflex, and weakened ability to chew, the nurse recognizes that the nerve involved is cranial nerve:

II: Optic.

III: Oculomotor

IV: Trochlear

V. Trigeminal.

Explanation:

If a patient with a brain tumor develops cranial nerve deficits that include facial numbness, poor blink reflex, and weakened ability to chew, the nurse recognizes that the nerve involved is cranial nerve V, Trigeminal.

Cranial nerve	*Impairment*
I. Olfactory	*Loss or change in sense of smell.*
II. Optic	*Vision changes: acuity, visual fields, optic atrophy.*
III. Oculomotor	*Ptosis, pupil dilation, impaired eye muscle function, double vision, nystagmus, sunsetting, poor near vision*
IV. Trochlear	*Impaired eye muscle function and nystagmus.*
V. Trigeminal	*Facial numbness, impaired blink reflex, and weakened ability to chew.*
VI. Abducens	*Nystagmus and impaired function of ocular muscle.*

32.

A patient with a brain tumor experiences short periods (60 seconds) of abnormal lip smacking and gagging. This type of seizure is classified as:

simple partial.

complex partial.

absence.

atonic.

Explanation:

If a patient with a brain tumor experiences short periods (60 seconds) of abnormal lip smacking and gagging, this type of seizure is classified as complex partial (psychomotor). Typically, the child does not lose consciousness but has altered consciousness and is non-responsive with amnesia. The seizures may involve complex sensorium with bad tastes, auditory or visual hallucinations, feeing of déjà vu, and strong fear. The child may carry out repetitive activities, such as walking, running, smacking lips, gagging, chewing, or drawling but is rarely aggressive. The seizure is usually followed by prolonged drowsiness and confusion.

33.

Which of the following agents would the nurse advise patient and family can result in photosensitivity?

Methotrexate.

Thiotepa.

Ifosfamide.

Bleomycin.

Explanation:

A number of different chemotherapeutic agents can cause photosensitivity: methotrexate, fluorouracil, dacarbazine, vinblastine, doxorubicin, docetaxel, etoposide, and gemcitabine. These drugs induce a phototoxic reaction when they absorb ultraviolet light through the skin. The photosensitivity recedes after therapy is completed, but patients must be advised to use sunscreen and/or sunblock and protection when in the sun to prevent burns and skin injury.

34.

An 8-year-old receiving L-asparaginase for leukemia is monitored for signs of pancreatitis. The normal amylase level for an 8-year-old is:

6 to 40 units/L.

11-80 units/L.

16-91 units/L.

30-110 units/L.

Explanation:

The normal amylase level for an 8-year-old is 16 to 91 units/L. A child receiving L-asparaginase is monitored for pancreatitis with periodic serum amylase and lipase. Serum amylase:

1 to 3 years *11-80 units/L*

4 to 9 years *16 to 91 units/L*

10 to 18 years *19 to 76 units/L*

19 to adult *30 to 110 units/L*

The normal range for serum lipase is 0 to 60 units/L for all ages, from newborn to older adulthood. Risk of pancreatitis is about two and a half times greater in children age 10 and over than in younger children. The average time to onset after beginning treatment with L-asparaginase is 4 weeks.

35.

A 13-year old patient receiving chemotherapy for leukemia states, "There is no point in having this treatment." What is the most appropriate nurse response?

"You must have chemotherapy in order to get well."

"Do you believe the treatment isn't helping you?"

"You should talk to your doctor about that."

"Your parents have decided you should have chemotherapy."

Explanation:

The most appropriate response is to verbally express the implied message: "Do you believe the treatment isn't helping you?" It's important to allow the patient to explore the subject ("I'd like to hear how you feel about that") while still allowing the patient to terminate the discussion without further probing. Providing advice with "should" or "must" often stops conversation. It's

better to provide facts. The issue should be dealt with immediately rather than referred to the doctor. Stating simply that the parents decided the issue ignores the patient's feelings.

36.

Which of the following laboratory tests to assess nutritional status is most sensitive to long-term protein deficiencies?

Prealbumin.

Albumin.

Transferrin.

Total protein.

Explanation:

The laboratory test to assess nutritional status that is most sensitive to long-term protein deficiencies is albumin. Albumin has a half-life of 18-20 days, so it is sensitive to long-term protein deficiencies more than short-term.

- *Normal values: Ages 1 to 3: 3.4-4.2 g/dL; Ages 3 to 6: 3.5-5.2; Ages 7 to 19: 3.7-5.6 g/dL*
- *Mild deficiency: 3 to 3.5 g/dL*
- *Moderate deficiency: 2.5 to 3.0 g/dL*
- *Severe deficiency: <2.5 g/dL.*

Albumin is a protein that is produced by the liver and is a necessary component for cells and tissues. Levels decrease with renal disease and malnutrition.

37.

A patient treated with spinal radiation during childhood should be routinely assessed during puberty for:

scoliosis.

leg-length discrepancies.

paresis/paralysis.

kyphosis.

Explanation:

A patient treated with spinal radiation during childhood should be routinely assessed during puberty for scoliosis as it occurs in up to 80% of patients following spinal radiation. As pubertal growth spurts occur, the scoliosis tends to progress. Scoliosis is the lateral curvature ≥11° of the spine, usually occurring during the period between 10 and 15 when the child goes throughs growth spurts. Positive findings may include one shoulder lower than another, uneven waistline, prominence of shoulder blade(s), one hip higher than another, or lateral leaning when upright.

38.

A chemotherapeutic agent that may result in hyperpigmentation is:

taxanes

idarubicin.

cytarabine.

cyclophosphamide.

Explanation:

Cyclophosphamide is a chemotherapeutic agent that may result in hyperpigmentation because of inflammatory changes it causes in the skin. Hyperpigmentation is more common in patients with darker skin although it can occur in any race. With cyclophosphamide, hyperpigmentation may occur on the nails, face, trunk, and extremities. Typically, the hyperpigmentation fades within 6 to 12 months after cessation of therapy although it may persist for a number of years in some patients.

39.

Following sedation for a procedure, a child received naloxone as a reversal agent. The nurse anticipates that the child will need to be monitored for:

a shorter period because of the action of the naloxone.

the normal period of time.

a longer period of time because the half-life of naloxone may be shorter than that of sedating drugs.

at least 8 hours because of potential adverse effects to naloxone.

Explanation:

If, following sedation for a procedure, a child received naloxone as a reversal agent, the nurse anticipates that the child will need to be monitored for a longer time than usual because the half-life of naloxone may be shorter than that of sedating drugs. Thus, the child may appear to recover well from sedation but may relapse when the naloxone wears off and may require a further dose. Some children may react more strongly to sedative drugs than others.

40.

The mother of an 8-month-old infant tells the nurse that she doesn't plan to stay with her infant in the hospital because the infant is too young to know the mother is missing. Which of the following is the most effective response?

"Don't worry. The nurses will take care of your child."

"Children 6 months to 3 years often suffer severe separation anxiety and stress."

"You should stay with your child."

"Your baby will be fine without you, so whatever you want is all right."

Explanation:

Parents or caregivers should be encouraged to stay with the child and do as much personal care of the infant as possible, including nursing, feeding, and changing diapers. By about 6 months, infants begin to show stranger anxiety, and hospitalization may cause severe separation anxiety and stress, especially if infants are left in the care of strangers. The nurse should tell parents the facts, "Children 6 months to 3 years often suffer severe separation anxiety and stress" but avoid using "should" statements or minimizing the problem with "Don't worry" or "Your baby will be fine."

41.

Which type of food may be best for a patient with xerostomia?

Tart and sweet.

Bland and cold.

High fibre and ample fluids.

Soft, easily chewed and swallowed.

Explanation:

The type of food that may be best for a patient with xerostomia is tart and sweet. Xerostomia is characterized by inadequate production of saliva, and foods that are tart and sweet tend to stimulate production of saliva, so they hellp to alleviate symptoms. The patients should also increase fluid intake and may suck on hard candies. Bland and cold foods are best for people with nausea and vomiting. Patients with constipation should be urged to increase fluid and fiber intake. Soft foods that are easily chewed and swallowed are recommended for those with mucositis.

42.

A patient receiving total parenteral nutrition (TPN) for inflammatory bowel disease should be monitored every 6 hours for which of the following?

Hemoglobin and hematocrit.

Blood glucose level.

Blood, urea, nitrogen (BUN).

Electrolytes.

Explanation:

Total parenteral nutrition (TPN) is high in glucose, so patients should have blood glucose levels monitored every 6 hours to evaluate hyperglycemia. Some patients may require insulin during administration of parenteral nutrition. Symptoms of hyperglycemia may include increased thirst, increased urination, blurred vision, and lethargy. Some patients may experience a rebound hypoglycemia when TPN is discontinued. TPN is generally indicated when nutritional intake is

inadequate with oral or enteric feedings. TPN for extended periods is generally administered per a central venous catheter.

43.

Which of the following approaches to pain management may alter the perception of pain?

TCAs.

Glucocorticoids.

Opioids.

Cognitive behavioral therapy.

Explanation:

Cognitive-behavioral therapy may alter the perception of pain by helping patients to change the way the think about and deal with pain. Reducing stress helps to change the physical response to pain. Techniques utilized by CBT include imagery and relaxation exercises as well as distraction (watching movies, listening to music, playing games, visiting with friends). Studies have shown that mental distraction inhibits pain response signals and may increase the levels of endorphins, which provide an endogenous relief of pain.

44.

Which of the following CVADs can be routinely flushed with NS rather than heparin?

PICC.

Implanted VAC.

Groshong catheter.

PermCath.

Explanation:

The Groshong catheter can be routinely flushed with NS (0.9%) rather than heparin. The Groshong catheter is a single- or double-lumen tunneled or non-tunneled central venous catheter with a three-way self-sealing valve at the distal tip. The catheter capacity is 1.5 mL. The catheter should be flushed before and after every access. If not in use, the catheter only needs to be flushed one time weekly although institutional protocol may require more frequent flushing.

45.

When explaining an upcoming surgical procedure to a three-year-old child, the best tool to use is:

a medical doll.

the child's favorite stuffed animal.

a book with pictures.

a cartoon video.

Explanation:

When explaining an upcoming surgical procedure to a three-year-old child, the best tool to use is a medical doll intended for educating children. The child's favorite stuffed animal may provide

comfort to the child after the procedure, so the nurse should avoid associating the stuffed animal with the surgery. At three years, the child is too young to be able to benefit from a book or cartoon video and will do better with things, such as the doll, that the child can manipulate.

46.

Which of the following antibiotics is most often associated with Red Man's syndrome?

Linezolid.

Vancomycin.

Clindamycin.

Azithromycin.

Explanation:

Vancomycin is most often associated with Red Man's syndrome, which is a hypersensitivity reaction to the drug, usually associated with rapid infusion of less than 60 minutes. Symptoms usually begin to appear with 4 to 10 minutes although delayed reactions are possible. This reaction is most common in patients with HIV, GVHD, and lung cancer. The patient's skin appears flushed ("red"), and the patient develops an itching, burning rash on the upper torso, face, and neck. Some also have fever and chills, edema of the face and lip, and various other symptoms. Desquamation occurs in about 6 days. Some experience hair loss if the scalp is involved.

47.

The purpose of asking a patient and family to complete an ecomap is to assess:

environmental needs.

environmental toxins/exposures.

support systems.

family structure.

Explanation:

The purpose of asking a patient and family to complete and ecomap is to assess support systems (social and personal relationships) available to them. Ecomaps begin with a middle circle with the patient's name with smaller circles connected to it and containing the names of friends, family members, groups, organizations, workplace, schools and other associations. Then different types of lines are used to show the type of connection. For example, a close family relationship might be a connected with a heavy line and a work associate with a dotted line.

48.

A patient receiving chemotherapy, including glucocorticoids, develops a cutaneous MRSA infection. Which of the following antimicrobials does the nurse anticipate may be prescribed?

TMP-SMZ.

Cefazolin.

Nafcillin.

Amoxicillin.

Explanation:

If a patient receiving chemotherapy, including glucocorticoids, develops a cutaneous MRSA infection, the nurse anticipates that TMP-SMZ, clindamycin, or linezolid may be prescribed. Amoxicillin, which is often prescribed for Staphylococcus aureus infections is not effective against MRSA. Cefazolin and Nafcillin are also effective for Staphylococcus aureus infections but not for MRSA. Vancomycin, which is usually effective, is generally not currently prescribed because of increasing incidence of vancomycin-resistant Staphylococcus aureus (VRSA).

49.

If an adolescent patient with a rare form of cancer wants to communicate with someone else who has the same type of cancer, the best Internet resource is:

Group Loop.

Imerman Angels.

Planet Cancer.

First Descents.

Explanation:

If an adolescent patient with a rare form of cancer wants to communicate with someone else who has the same type of cancer, the best Internet resource is Imerman Angels. This website matches patients one-on-one with a mentor (survivor or caregiver of someone with the same cancer). Adolescents need permission of a parent or legal guardian in order to participate, but there is no cost. If the program can't find a mentor match, it seeks a match from partner organizations.

50.

In the 15-Minute Family Interview, in addition to reviewing family structure and function and asking 3 questions, the nurse should:

discuss two areas of weakness.

ask the family to name two areas of weakness.

ask the family to name two areas of strength.

commend the family for two areas of strength.

Explanation:

In the 15-Minute Family Interview, in addition to reviewing family structure and function and asking three questions, the nurse should commend the family for two areas of strength: "Your child has a very good understanding of his illness." The 15-Minute Family Interview is a structured method to learn valuable information from a family and to provide some positive feedback. The interview should begin with introductions and the purpose of the interview. The nurse helps the family to prepare a genogram to help to explain family structure.

51.

If a dying child is in the terminal stage and experiences air hunger, which of the following treatments is likely to provide the best relief of symptoms?

Opioid.

Anxiolytic agent.

Oxygen per mask.

Scopolamine hydrobromide.

Explanation:

If a dying child is in the terminal stage and experiences air hunger, the treatment that is likely to provide the best relief of symptoms is an opioid, which alters the perception of air hunger and reduces pain and anxiety as well as these factors may contribute to dyspnea. A cool fan directed toward the face and elevating the child's head may also provide some relief. Supplementary oxygen may provide some relief, but children may feel claustrophobic and resist the use of an oxygen mask or nasal prongs.

52.

The Pediatric Psychosocial Health Model focuses on family:

goals.

needs.

strengths.

problems.

Explanation:

The Pediatric Psychosocial Health Model focuses on family problems. Based on the results of the Psychosocial Assessment Tool, families are placed in risk categories that are linked to interventions. Categories from least risk to greatest risk:

Category	*Psychosocial situation*	*Interventions*
Universal	*Families are in a state of distress but remain resilient.*	*Provide support and information.*
Targeted	*Families are in a state of acute distress, and risk factors are present.*	*Monitor situation and provide targeted services aimed at the symptoms.*

Clinical	*Families are in a state of persistent and worsening distress, and high-risk factors are present.*	*Consult with a behavioral health specialist regarding appropriate interventions.*

53.

Synthetic receptors on CAR-T cells allow them to:

attach to antigens on B-cells.

attach to antigens on tumor cells.

stimulate production of more CAR-T cells.

destroy native T-cells.

Explanation:

Synthetic receptors on CAR-T cells allow them to attach to antigens on tumor cells and to destroy the tumor cells. After CAR-T cells are infused into the patient, they are able to multiply. The use of CAR-T cells is now primarily in the treatment of ALL, but the therapy has shown promise in treatment other cancers, such as lymphoma. One of the most serious effects of CAR-T cells treatment is cytokine release syndrome, which is often managed with administration of tocilizumab.

54.

Severe hepatic iron overload is treated with:

FFP.

glucocorticoids.

chelating agents.

allopurinol.

Explanation:

Severe hepatic iron overload (>1000 microg/dL) is treated with chelating agents, which includes deferoxamine, deferasirox, and deferiprone. Chelating agents are able to bind to iron and change it into a water-soluble complex that can be eliminated in urine and feces. Patients may also be advised to limit iron intake in the diet. If hepatic iron levels are only mildly elevated, patients may be asymptomatic; but as the level increases, patients may experience hepatomegaly, arthralgia, weakness, changes in color of skin, abdominal pain, and endocrinopathies.

55.

The most common triggering factor for posterior reversible encephalopathy syndrome is:

radiation therapy.

hypertension.

infection.

stroke.

Explanation:

The most common triggering factor for posterior reversible encephalopathy syndrome is hypertension although less common factors may include cytotoxic agents and immunosuppressants, sepsis, kidney failure, and autoimmune disorders. Patients may exhibit mild to severe confusion/stupor and seizures, headaches, and visual disturbances. Treatment depends on identifying and eliminating the underlying cause. Patients usually improve over the course of a few weeks. However, if symptoms were severe, some residual neurological deficit may persist.

56.

Secondary ovarian failure may occur as the result of radiation to the CNS in doses of greater than:

10 Gy.

20 Gy.

30 Gy.

40 Gy.

Explanation:

Secondary ovarian failure may occur as the result of radiation to the CNS in doses of greater than 40 Gy because of damage to the hypothalamic-pituitary axis. If radiation is directed at the ovaries, ovarian failure occurs with doses of 4 to 12 Gy. At 14.4 Gy exposure during TBI, one study showed that 90% of patients experienced ovarian failure. Alkylating agents may also cause ovarian failure although ovaries are more resistant than male gonads.

57.

A two-year-old exhibits regressive behavior, cries "No, no!" when approached, and guards the treatment site. This behavior is most likely an expression of:

anger.

fear.

sadness.

pain.

Explanation:

If a two-year-old exhibits regressive behavior, cries "No, no!" when approached, and guards the treatment site, this behavior is most likely an expression of pain. Toddlers are not able to verbalize their pain but often exhibit regressive and verbally aggressive behavior although some may become withdrawn. Carefully observing infants and toddlers and using appropriate pain evaluation tools are important to ensure that they receive adequate pain management.

58.

The average age of stroke in children with sickle cell disease is:

1 to 2.

3 to 5.

6 to 8.

9 to 12.

Explanation:

The average age of stroke in children with sickle cell disease is 6 to 8. By age 14, about 8% of children with sickle cell disease have experienced a stroke. The most common type of stroke is caused by cerebral infarction, during which sickled cells occlude vessels, and 8 out of 10 children who suffer a stroke remain hemiplegic. Even if the effects of infarction are subclinical, children may experience long-term impairment of cognition.

59.

Which of the following signs are commonly seen in a child who is within hours or days of death?

Irregular breathing pattern.

Decreasing pain.

Increased awareness.

Slowly progressive increased weakness.

Explanation:

An irregular breathing pattern as well as increasing secretions and rattle are commonly observed in children who are within hours or days of death. If the child already had dyspnea, this may be hard to differentiate. Other indications include decreased peripheral perfusion, cyanosis, and increased capillary refill time as well as sudden increase in marked weakness, increasing pain, decreased urinary output, and altered level of consciousness. The child loses interest in food and fluids and may experience intractable seizures.

60.

When assessing radiation dosage, the nurse recognizes that 1500 cGy is equal to:

150 Gy.

15 Gy.

1.5 Gy.

0.15 Gy.

Explanation:

When assessing radiation dosage, the nurse recognizes that 1500 cGy is equal to 15 Gy. Dosage is calculated in centigray (cGy), gray (Gy), and milli-gray (mGry). A Gy (named after Louis H. Gray) is a unit of ionizing radiation and represents one joule of radiation energy absorbed per each kg of matter (tissue in the case of humans).

Gy cGy mGy

1 100 1000

2 200 2000

20 2000 20,000

High dosage radiotherapy is calculated using Gy but lower dosage is calculated by cGy or mGy because it is easier to use whole numbers.

61.

Children with sickle cell disease have increased bilirubin levels because of red blood cell destruction, increasing risk of:

hepatitis.

hepatomegaly.

hepatic fibrosis.

cholelithiasis.

Explanation:

Children with sickle cell disease have increased bilirubin levels because of red blood cell destruction, increasing risk of cholelithiasis with pigmented gallstones. Up to 80% of patients with sickle cell disease eventually develop cholelithiasis. In order to prevent complications, such as cholecystitis, children diagnosed with cholelithiasis should generally undergo elective laparoscopic cholecystectomy even if they are asymptomatic.

62.

A patient who received radiation therapy develops radiation necrosis, which is:

skin ulcers from radiation burns.

dead tissue mass at site of irradiated tumor.

dead tissue mass in bone marrow.

scar tissue adjacent to targeted site irradiation.

Explanation:

A patient who received radiation therapy develops radiation necrosis, which is a dead tissue mass at the site of the irradiated tumor. Radiation is more effective at killing malignant cells than normal cells, but some normal cells are damaged. Months or years following radiation therapy, sometimes a mass of dead tissue (cancerous and noncancerous) forms at the site of irradiation. This mass must be surgically removed.

63.

The full course of treatment with intensity modulated radiation therapy (IMRT) is usually administered over how many sessions?

10 to 20.

20 to 30.

30 to 40.

40 to 50.

Explanation:

The usual full course of treatment with intensity modulated radiation therapy (IMRT), a shaped-beam system, is administered over 20 to 30 sessions. IMRT utilizes computer control to evaluate the arrangement of beams and to target the tumor while sparing normal tissue. This allows the use of higher dose rates. IMRT tends to have fewer adverse effects that conventional radiation therapy. When used for treatment of brain tumors, a head frame is required to ensure the patient remains immobile.

64.

A child has a brain tumor that cannot be completely removed but is scheduled for surgery to excise part of the tumor in order to:

prolong life and relieve symptoms.

provide more information about the tumor.

support research into tumor treatment.

provide hope to patient and family.

Explanation:

A child has a brain tumor that cannot be completely removed but is scheduled for surgery to excise part of the tumor in order to prolong life and relieve symptoms. The trauma of surgery must be balanced against the patient's symptoms and quality of life. Brain tumors may cause severe symptoms, including headaches and seizures, so surgery may be done to improve the patient's quality of life as much as possible. In some cases, palliative chemotherapy and/or radiation therapy may also be administered.

65.

All patients who have any type of radiation therapy should have which of the following examinations annually?

Dermatologic exam.

Colonoscopy.

Chest x-ray.

Thyroid ultrasound.

Explanation:

All patients who have had any type of radiation therapy should have an annual dermatologic exam because radiation, regardless of the part of the body involved, is a risk factor for the development of melanoma as well as non-melanoma skin cancer. Other types of exams are

indicated depending on the target site for radiation therapy. For example, those who have radiation to the head, neck, mantle, or total body should have a yearly thyroid examination.

66.

With normal bone marrow function, after an abrupt drop in the red blood cell count associated with autoimmune hemolytic anemia, how soon does the nurse expect that an increase in the reticulocyte count will occur?

24 hours.

2 to 3 days.

3 to 5 days.

6 to 8 days.

Explanation:

With normal bone marrow function, after an abrupt drop in the red blood cell count associated with autoimmune hemolytic anemia, an increase in the reticulocyte count usually occurs within three to five days. Reticulocytes are immature red blood cells and usually comprise only about 1% of the total red blood cell count, but in response to anemia, the bone marrow responds by increasing production, and the reticulocyte count may increase rapidly, bringing the percentage as high as 4%.

67.

Leukocoria is an indication of which type of ocular cancer?

Retinoblastoma.

Ocular melanoma.

Intraocular lymphoma.

Hemangioma.

Explanation:

Leukocoria, a white pupillary response, is a primary indication of retinoblastoma; however, leukocoria may occur with other eye disorders as well so further testing is necessary. Retinoblastoma occurs primarily in children and is usually diagnosed during infancy or early childhood. About 20% to 30% of children diagnosed with retinoblastoma have bilateral lesions. Other indications of retinoblastoma include strabismus, ocular pain, bleeding in the eye, color differences (iris), and exophthalmia.

68.

Bowen's family system theory suggests that:

a change in one person's behavior will affect the others in the family.

the basic family unit is two people, and a third is disruptive and results in conflict.

people in the same family have similar needs for external approval.

family members function independently.

Explanation:

Bowen's family system theory considers the interdependence of family members, suggesting that a change in one person's behavior will affect the others. The concept of the triangle theory

states that the basic family unit is two people, but when conflict arises, a third person is drawn into the conflict to provide stability by siding with one person or the other, maintaining the basic family unit. Bowen believes that family members vary in the need for external approval but tend to function interdependently even if they state otherwise.

69.

When teaching families about the ABCDEs of melanoma, the nurse states that the *E* stands for:

evolving changes.

ecchymotic areas.

elemental changes.

expanding lesion.

Explanation:

When teaching families about the ABCDEs of melanoma, the nurse states that the E stands for evolving changes:

Melanoma: ABCDEs

A Asymmetry.

B Borders uneven, scalloped, or notched.

C Color variations evident within a mole.

D Diameter is usually larger than 6 mm (1/4 inch).

E Evolving changes in size, shape, color, or appearance.

Patients and their families should be aware of the signs of possible melanoma because this cancer may arise in patients who are immunocompromised.

70.

A child has increasing bleeding and the nurse is reviewing laboratory findings. The normal range for prothrombin time is:

21 to 35 seconds.

10 to 15 seconds.

30 to 45 seconds.

2 to 9.5 minutes.

Explanation:

Prothrombin time (PT)	*Normal range: 10 – 15 seconds* *Critical:>27 seconds*	*Increases with anticoagulation therapy, vitamin K deficiency, decreased prothrombin, DIC, liver disease, and malignant neoplasm.*

The prothrombin time tells how long it takes for a fibrin clot to form. If clotting times are given in terms of the INR, normal is less than 2 if not receiving anticoagulation (warfarin, heparin) and between 2 and 3 if receiving anticoagulation.

71.

In the blood count, a "shift to the left" usually refers to an increased number of immature:

red blood cells.

neutrophils.

lymphocytes

monocytes

Explanation:

In the blood count, a "shift to the left" (a carryover from when reports were hand written) usually refers to an increased number of immature neutrophils, also referred to as "bands" or "stabs" because of the C-shaped nucleus in the immature cells. Neutrophils increase in response to acute infections, but their normal life cycle is only about 5 to 6 days: so, as production increases, the ratio of immature cells to mature cells increases.

72.

Red blood cells normally circulate in the bloodstream for:

60 days

90 days

120 days

150 days

Explanation:

Red blood cells normally circulate in the bloodstream for 120 days although this duration may be decreased with some diseases, such as sickle cell disease. During the normal 120 life span, an RBC travels throughout the body approximately 75,000 times. While many old cells are destroyed in the liver and spleen by macrophages and excreted daily, production normally keeps pace so that a stable number of RBCs continues to circulate.

73.

Avascular necrosis is most often associated with treatment with:

anthracyclines.

alkylating agents.

radiation.

glucocorticoids.

Explanation:

Avascular necrosis is most often associated with treatment with glucocorticoids for prolonged periods, including prednisone and dexamethasone, used in the treatment of cancer. Risk increases if the patient also receives radiation therapy. Avascular necrosis occurs when the blood supply to the bone is impaired, resulting in areas of necrosis within the bone. This weakens the bone, which may collapse or fracture, sometimes involving a joint.

74.

Beck's triad (increased central venous pressure with distended jugular veins, muffled heart sounds, and hypotension) is characteristic of:

pulmonary edema.

pneumonitis.

cardiac tamponade.

superior vena cava syndrome.

Explanation:

Cardiac tamponade occurs when fluid accumulates in the pericardial sac, causing pressure against the heart. It may result from constriction caused by a tumor or radiation. About 50 mL of fluid normally circulates in the pericardial area to reduce friction, and a sudden increase in this volume can compress the heart. Symptoms include pressure or pain in the chest as well as dyspnea, and pulsus paradoxus >10 mm Hg (systolic blood pressure heard during exhalation but not during inhalation). Beck's triad (increased central venous pressure with distended jugular veins, muffled heart sounds, and hypotension) is common.

75.

What type of prophylaxis is often indicated for patients receiving high dosages of busulfan, an alkylating agent?

Antibiotic.

Glucocorticoid.

Antihistamine.

Anticonvulsant.

Explanation:

Prophylaxis with an anticonvulsant is often indicated for patients receiving high dosages of busulfan, an alkylating agent that is cell-cycle non-specific, because busulfan can cause seizures at high dosages. Busulfan is used as part of conditioning protocols prior to hematopoietic stem cell transplantation (HSCT). Common side effects include myelosuppression, nausea and vomiting, and bronze-like discoloration of the skin. Some patients may also experience mucositis, skin irritation and breakdown, and/or decreased adrenal function.

76.

During administration of a chemotherapeutic agent, the patient has sudden onset of dyspnea, wheezing, hypotension, and throat and facial edema. The nurse's initial action is to:

discontinue administration of the chemotherapeutic agent.

administer oxygen.

administer epinephrine.

administer an antihistamine.

Explanation:

Because these symptoms are consistent with anaphylaxis, the nurse should immediately discontinue the chemotherapeutic agent and then monitor the patient's respiratory and cardiovascular functions. Epinephrine 1:000 dilution is administered subcutaneously and may be then given in continuous IV infusion if symptoms are severe. Dyspnea is treated with high-concentration of oxygen. If the patient goes into cardiac arrest, then CPR is administered. Once the patient is stabilized, antihistamines and corticosteroids may be administered to prevent recurrence and to treat hives and edema.

77.

Which of the following reacts with cisplatin, resulting in formation of precipitants?

Aluminum.

Latex.

Normal saline.

Polyethylene.

Explanation:

Aluminum reacts with cisplatin (heavy metal alkylating agent) as well as carboplatin, resulting in formation of precipitants and loss of potency. Therefore, the IV needle and IV sets must not contain aluminum to avoid any contact between the drugs and aluminum. Carboplatin often causes myelosuppression, nausea and vomiting (often severe), and hypomagnesemia as well as hearing loss and kidney damage. Patients receiving cisplatin should be premedicated with an antiemetic and should receive magnesium supplements.

78.

Which of the following vectors for cancer gene therapy can be utilized for viral oncolysis?

Adeno-associated virus.

Lentivirus.

Retrovirus.

Herpesvirus.

Explanation:

Herpesvirus is a vector that can be utilized for viral oncolysis. With viral oncolysis, viral vectors multiply only in cancer cells (where they infect and lyse the cells) and not normal cells. The vectors also appear to trigger an increased immune response. Other oncolytic viruses include adenovirus, pox virus, and vaccinia virus. Some oncolytic viruses occur naturally but others were developed in the laboratory. Herpesvirus is FDA approved as a genetically modified herpesvirus is, but other viruses are being used in clinical trials.

79.

At which stage in Piaget's theory of cognitive development do children engage in magical thinking and show egocentrism?

Sensorimotor.

Preoperational.

Concrete operational.

Formal operational.

Explanation:

According to Piaget's theory of cognitive development, children engage in magical thinking and show egocentrism in the preoperational stage. Stages include:

- *Sensorimotor (0-24 months): Intellect begins to develop and children acquire motor and reasoning skills, begin to use language, and prepare for more complex intellectual activities.*
- *Preoperational (2-7 years): Children develop a beginning concept of cause and effect along with magical thinking and egocentrism.*
- *Concrete operations (7-11): Children develop understanding of cause and effect and concrete objects.*

- *Formal operational (11-adult): Children/young adults develop mature though processes, ability to think abstractly and evaluate different possibilities and outcomes.*

80.

A 10-year old child whose parents are Jehovah Witnesses has life-threatening hypovolemic shock, requiring blood transfusions. On admission, the parents indicated, "No transfusions." What is the nurse's most appropriate initial action?

Contact risk management to ask for advice.

Tell the parents that the child will die if they refuse blood transfusions.

Contact Child Protective Services to request intervention.

Provide full information to the parents, allowing them to express their feelings.

Explanation:

The initial step is to approach the parents with full information and reasons for the need for transfusions or blood components without being judgmental, allowing them to express their feelings. In fact, studies show that while adults often refuse personal transfusions, they frequently allow their children to receive blood products. Additionally, Jehovah Witnesses can receive fractionated blood cells, thus allowing hemoglobin-based blood substitutes. One should never assume that religious beliefs alone would determine people's actions.

81.

Which medication is often administered before each fraction of highly emetic radiation therapy to relieve nausea and vomiting?

Diphenhydramine.

Meclizine.

Ondansetron.

Dexamethasone.

Explanation:

Ondansetron, an antiemetic that blocks serotonin (which causes vomiting), is often administered before each fraction of highly emetic radiation therapy to relieve nausea and vomiting. Ondansetron is also used to relieve chemotherapy-induced nausea and vomiting. Ondansetron comes in a wafer that dissolves on the tongue so that it enters the bloodstream very quickly. Some patients may experience dizziness or headache as well as feelings of drowsiness and constipation, but these effects are usually less debilitating than the nausea and vomiting.

82.

If the nurse is concerned that the children in the oncology unit have inadequate opportunities for play, the professional that may provide the best guidance is the:

child life specialist.

child psychologist.

social worker.

occupational therapist.

Explanation:

If the nurse is concerned that the children in the oncology unit have inadequate opportunities for play, the professional that may provide the best guidance is the child life specialist. The child life specialist can provide information about the impact of disease and illness of children and is trained to help children develop coping skills and to use play both recreationally and therapeutically. The child life specialist can also provide guidance in supporting children through treatments and various procedures.

83.

SIADH can result in water intoxication primarily because:

thirst causes patient to drink too much water.

generalized vasodilation occurs.

hypernatremia causes water retention.

excess water is retained by renal tubules.

Explanation:

SIADH can result in water intoxication primarily because excess water is retained by the renal tubules. When tumor cells begin producing unregulated amounts of antidiuretic hormone, causing loss of sodium in the urine and hyponatremia. This in turn causes the renal tubules to increase reabsorption of water. The increased water is distributed intracellularly rather than interstitially, so the patient usually does not appear edematous.

84.

A child who has been having periodic tonic-clonic seizures develops a seizure that still persists after 3 minutes. The nurse anticipates that the initial emergent treatment will include:

phenobarbitol.

benzodiazepine (Ativan®)

phenytoin (Dilantin®).

gabapentin (Neurontin®).

Explanation:

Persistent tonic-clonic seizures indicate status epilepticus, which can be life threatening. Anticonvulsants usually begin with fast-acting benzodiazepine (Ativan®), often in steps, with administration of medication every 5 minutes until seizures subside. If there is no response to the first 2 doses of anticonvulsants, rapid sequence intubation, which involves sedation and paralytic anesthesia, may be done while therapy continues, and phenytoin and phenobarbitol added. Combining phenobarbitol and benzodiazepine can cause apnea, so intubation may be necessary.

85.

A 17-year old patient confides to the nurse that he is depressed and has suicidal thoughts but tells the nurse not to tell his parents. Which is the most appropriate action regarding confidentiality?

Respect the boy's right to confidentiality and not tell the parents.

Call the parents after the visit to tell them about the boy's depression.

Tell the parents the boy needs counseling to deal with "peer pressure."

Insist on telling the parents with the boy present, supporting the boy and helping them discuss the issue.

Explanation:

The nurse is often faced with ethical concerns about dealing with confidentiality, but the best course is to deal with the issue directly by informing adolescents that what they say will be held in confidence within certain limitations: Health endangerment, such as through the abuse of drugs or alcohol, eating disorders, or suicidal thoughts, must be reported to the parents, while assuring the child that the nurse practitioner will be there to support and help to discuss these matters with parents. Mandatory reporting requirements must also be upheld, including reports of child abuse, sexual abuse, and communicable diseases.

86.

Hemorrhagic cystitis in the late period after HSCT is usually caused by:

hemolysis.

bacterial infection.

viral infection.

trauma.

Explanation:

Hemorrhagic cystitis in the later period after HSCT is usually caused by viral infection, such as BK virus, cytomegalovirus, and adenovirus, associated with immunosuppression. Many of the drugs (cyclophosphamide, busulphan, thiotepa, ifosfamide) used in preparation for HSCT may trigger hemorrhagic cystitis as well. Ciprofloxacin prophylaxis may reduce incidence of BK viral infection. Cidofovir may be administered as prophylaxis for various viruses. Patients should receive adequate hydration and encouraged to empty the bladder frequently.

87.

A patient recently diagnosed with intra-abdominal rhabdomyosarcoma has developed severe nausea and vomiting, abdominal distention, and abdominal pain and cramping. The patient has passed only small amounts of liquid stool for the past 3 days. The nurse recognizes these signs and symptoms as indicating:

complete bowel obstruction.

partial bowel obstruction.

paralytic ileus.

necrotizing enterocolitis.

Explanation:

If a patient recently diagnosed with intra-abdominal rhabdomyosarcoma has developed severe nausea and vomiting, abdominal distention, and abdominal pain and cramping and has passed only small amounts of liquid stool for the past 3 days, these signs and symptoms indicate a partial bowel obstruction. With a complete obstruction, the patient would pass no stool. A bowel obstruction is a medical emergency and usually requires surgical intervention.

88.

If a patient develops renal toxicity after treatment with methotrexate, which of the following drugs is used for rescue?

Dexamethasone.

Allopurinol.

Leucovorin.

Furosemide.

Explanation:

If a patient develops renal toxicity after treatment with methotrexate, leucovorin is used for rescue. Leucovorin serves as an antidote to help reverse adverse effects of methotrexate, including renal toxicity. Leucovorin is similar to folic acid. Methotrexate causes folic acid deficiency in both cancer and normal cells. Therefore, leucovorin is typically given 24 hours after the methotrexate in order to give the methotrexate time to work before leucovorin is administered. Leucovorin is also used in conjunction with fluoruracil for treatment of some tumors and is used for megaloblastic anemia associated with folic acid deficiency.

89.

If GVHD is characterized by 2+ skin staging, 1+ liver staging, and 1+ gut staging, the GVHD would be classified as:

Grade I.

Grade II.

Grade III.

Grade IV.

Explanation:

If GVHD is characterized by 2+ skin staging, 1+ liver staging, and 1+ gut staging, the GVHD would be classified as Grade II. Each parameter (skin, liver, gut) is staged from 1+ to 4+ and together they determine how GVHD is graded:

Grade I: Skin 1+ or 2+

Grade II: Skin 1-3+, liver 1+ and/or gut 1+

Grade III: Skin 2-3+, liver 2-4+, and/or gut 2-3+

Grade IV: Skin 2-4+, liver 2-4+, and/or gut 2-4+

90.

A 6-year old child must receive daily painful injections, and fights and screams when his mother is present but remains docile when he is alone. The mother becomes very upset during the injection and says repeatedly, "I'm so sorry this hurts so much!' and begins to cry. Which of the following is the most appropriate intervention by the nurse?

Ask the mother to wait outside during the injection.

Adjust dosing schedule to a time the child is usually alone.

Ask that a topical anesthetic be applied prior to the injection.

Counsel the mother on methods to reduce her own stress and the child's stress.

Explanation:

The mother should receive counseling on methods to reduce her own stress because parental anxiety closely correlates with the child's anxiety. The mother's statements about pain and her crying increase the child's stress and ability to cope. Providing options, such as distracting or rewarding the child, may help the mother control her own anxiety. Asking the mother to leave or giving the injection when she is absent may increase the child's stress even though the child may be afraid to express anxiety and may be more cooperative. Topical anesthetics may be

affective for insertion of needles, but painful injections usually result from tissue pain related to the medication, so topical anesthetics are less effective.

91.

A 4-year old child receiving cancer treatment refuses to eat any foods other than bananas, milkshakes, and hot dogs. Which of the following is the best advice for the parent?

Fortify these foods when possible and allow the child to eat what she likes.

Serve the child the same diet as other children, as she'll eat when she gets hungry.

Discuss the necessity of eating a more balanced diet with the child.

Withhold activities, such as watching cartoons, until the child eats other foods.

Explanation:

These foods should be fortified when possible (such as adding protein to milkshakes) and the child allowed to eat what she likes. Food jags are common with preschoolers, days or even weeks when they refuse all but one or two foods. Studies have indicated that children seem to suffer no ill effects, so forcing the child to eat other foods isn't necessary, but other foods should be offered until the child resumes a more normal diet. Because the child is stressed, she may be seeking comfort in the foods she knows and likes. A 4-year-old child is probably not going to be convinced by reason, and punishing the child by serving only other foods or withholding activities will increase anxiety.

92.

The onset of acute GVHD usually coincides with:

engraftment.

capillary leak syndrome.

infection.

renal toxicity.

Explanation:

The onset of acute GVHD usually coincides with engraftment, so onset is usually within the first 100 days. AGVHD is an immune antibody-antigen response of the donor T cells to foreign antigen, resulting in inflammation. Typically, patients develop a skin rash, increased bilirubin, and watery diarrhea. Drugs, such as cyclosporine and tacrolimus are commonly administered to deactivate T cells. Methotrexate and glucocorticoids may be administered as well to depress the immune response.

93.

Cytokine release syndrome is most often associated with treatment with:

radiation therapy.

monoclonal antibodies.

vincristine.

methotrexate.

Explanation:

Cytokine release syndrome, a systemic inflammatory response, is most often associated with treatment with monoclonal antibodies, including rituximab, brentuximab, and alemtuzumab as

well as with infection and some other drugs, such as oxaliplatin and lenalidomide and CAR T cell therapies. Symptoms may vary widely because of involvement of multiple organs and body systems and may include nausea and vomiting, myalgia, arthralgia, fever, chills, headache, renal failure, tachycardia, heart failure, hepatosplenomegaly, and seizures.

94.

Ten days after HSCT, a patient develops increased weight, fluid retention, and ascites. The nurse recognizes that the most likely cause is:

infection.

hypersensitivity reaction.

capillary leak syndrome.

sinusoidal obstruction syndrome.

Explanation:

If, ten days after HSCT, a patient develops increased weight, fluid retention, and ascites, the most likely cause is capillary leak syndrome, which involves release of the cytokines IL-2 and tumor necrosis factor, resulting in increased capillary permeability and the sudden transfer of fluids from the intravascular space to the interstitial spaces with marked hypoalbuminemia. The patient exhibits severe hypotension. Onset is often abrupt and occurs 7 to 14 days after transplantation. Presenting symptoms often include cough and nasal congestion.

95.

Which of the following positions is usually the best for a toddler who needs a venipuncture?

Supine.

Side lying.

Prone, arm extended.

Hug hold, facing parent.

Explanation:

The hug hold, in which the parent (or caregiver) sits and holds the toddler, facing the parent and enclosed in the parent's arms with one of the toddler's arms covered by the parent's arm, secures the toddler physically and also helps the toddler to feel secure and less frightened. The supine position should be avoided with small children as it leaves them the most exposed, increasing the children's fear. If placed in side-lying position, the child may instinctively curl into fetal position.

96.

A patient who has received treatment with anthracyclines experiences tachycardia, dyspnea, peripheral edema, increased jugular venous distention, galloping heart rhythm, and hepatomegaly. The nurse suspects that the symptoms are caused by:

cardiac tamponade.

acute cardiomyopathy.

endocarditis.

pericarditis.

Explanation:

If a patient who has received treatment with anthracyclines (such as doxorubicin) experiences tachycardia, dyspnea, peripheral edema, increased jugular venous distention, galloping heart rhythm, and hepatomegaly, the nurse suspects that the symptoms are caused by acute cardiomyopathy. Anthracyclines are associated with type 1 cardiotoxicity, which involves death of cardiomyocytes rather than mere dysfunction (type 2), so the damage to the heart is irreversible. For that reason, careful cardiac monitoring and preventive measures are especially important.

97.

A 10-year-old girl is hospitalized for removal of a tumor from her leg. Which of the following fears should the nurse confront before surgery?

Deformity/mutilation.

Loss of independence.

Lack of future ability.

Change of body image.

Explanation:

School-age children (6 to 12) often have very body-centric fears and are afraid of deformity/mutilation or loss of body parts resulting from surgery. They also fear loss of general control of the body and loss of bodily functions as well as general fears of pain and death. They may also be terrified of anesthesia because they feel they will have no control. They may exhibit guilt, regressive behavior and depression and may act out or withdraw. They may be very modest or shy about their bodies. The child should be educated about the surgery and what to expect after surgery and encouraged to make choices and participate in care.

98.

A 16-year-old adolescent has been told that his cancer is not responding to treatment. Prior to this, he had been very uncooperative with treatment and demanding, but he is now exhibiting a complete change in personality and is extremely cooperative, friendly, and compliant. According to Kübler-Ross's 5 stages of grief, which stage is the adolescent most likely experiencing?

Denial.

Anger

Bargaining.

Depression.

Explanation:

The adolescent is most likely in the bargaining stage. Kübler-Ross's five stages of grief include:

- *Denial: People resist news and may appear confused and uncomprehending.*
- *Anger: As reality becomes clear, people may react with pronounced anger (directed inward or outward) and sometimes hostility.*
- *Bargaining: This involves if-then thinking (often directed at a deity): "If I go to cooperate with treatments, they will begin working" or "If I pray, God will answer my prayers."*
- *Depression: People may become withdrawn and overwhelmed with sadness.*
- *Acceptance: People are able to accept death/dying/incapacity.*

99.

If changing a patient's pain medication from morphine to hydromorphone, and the patient's pain has been well-controlled, the hydromorphone should be started at:

25% of equianalgesic dose.

50% of equianalgesic dose.

75% of equianalgesic dose.

100% of equianalgesic dose.

Explanation:

If changing a patient's pain medication from morphine to hydromorphone, and the patient's pain has been well-controlled, the hydromorphone should be started at 50% of the equianalgesic dose. The patient should be observed carefully and the hydromorphone titrated up or down during the initial 24 hours. The effectiveness of the new drug should be reassessed every 2 to 3 days. If a patient's pain has not been controlled, the dosage of the new drug should be increased up to 100% or to 125% over current equianalgesic dose or rotate the two drugs at equianalgesic dose/

100.

The normal hemoglobin for a 9 to 14-year-old child ranges from:

12.7 to 18.7 g/dL.

9.3 to 13.3 g/dL.

11.5 to 15.5 g/dL.

10.4 to 13.6 g/dL.

Explanation:

The normal hemoglobin for a 9- to 14-year-old child ranges from 11.5 to 15/5 g/dL.

Age *Hemoglobin range*

1-2 months	*9.7 to 17.3 g/dL*
3-11 months	*9.3 to 13.3 g/dL*
1-5 years	*10.4 to 13.6 g/dL*
6-8 years	*10.9 to 14.5 g/dL*
9-14	*11.5 to 15/5 g/dL*
15-adult (male)	*13.2 to 17.3 g/dL*
15-adult (female)	*11.7 to 15.5 g/dL*

101.

The bleeding that occurs with leukemia is usually the result of:

decreased production of platelets.

damage to the vascular system.

decreased production of erythrocytes.

hepatosplenomegaly.

Explanation:

The bleeding that occurs with leukemia is usually the result of decreased production of platelets, which are essential to allow the blood to clot and prevent excessive bleeding. Decreased production of erythrocytes results in anemia, and neutropenia results in increased risk of infection. With leukemia, the tissue in the bone marrow that normally produces blood

cells is replaced with leukemic cells, which are not functional. Leukemic cells may invade organs and tissues throughout the body.

102.

A child with Hodgkin lymphoma has lesions in two separate regions, both above the diaphragm, and has been exhibiting fever and night sweats. According the Ann Arbor staging, the child's lymphoma would be staged as:

Stage I A.

Stage II B

Stage III X

Stage IV E.

Explanation:

Stage II B.

Ann Arbor classification of Hodgkin lymphoma:

- *Stage I: Localized to single lymph node, region, or organ.*
- *Stage II: Lesions in 2 or more lymph node regions on the same side (above or below) the diaphragm.*
- *Stage III: Lesions in 2 or more lymph node regions affecting both sides of the diaphragm.*
- *Stage IV: Widespread in multiple organs, with or without involvement of lymph nodes.*

Staging also includes categories:

- *A: Absence of symptoms.*
- *B: Presence of symptoms, such as fever, night sweats, or ≥10% weight loss.*
- *E: Involvement of tissues/organs outside of lymph system.*
- *S. Involvement of spleen.*

103.

If a child with probable leukemia is having a bone marrow aspiration and the physician has to use more than one site because the bone marrow is difficult to aspirate, this likely means that:

the physician has used the wrong gauge needle.

the bone marrow is free of leukemic cells.

the child's bones are abnormally hard.

the leukemic cells are densely packed.

Explanation:

If a child with probable leukemia is having a bone marrow aspiration and the physician has to use more than one site because the bone marrow is difficult to aspirate, this likely means that the leukemic cells are densely packed. Usually strong suction will withdraw up to 0.5 mL of bone marrow. The posterior superior iliac crest is usually used for bone marrow aspiration in children because it contains a large amount of marrow and is not close to important organs. Additionally, the bone is non-weight bearing. The child is placed in the prone or lateral decubitus position for the procedure.

104.

Considering Erikson's developmental stages, before carrying out assessment and treatment on a preschooler (ages 3 to 6), the pediatric nurse should:

pretend the assessment/treatment is a game.

sedate the child to lessen anxiety.

allow the child to play with medical equipment.

give detailed explanations of the purpose of interventions.

Explanation:

Considering Erikson's developmental stages, before carrying out assessment and treatment on a preschooler (ages 3 to 6), the pediatric nurse should allow the child to play with the medical equipment to lessen the child's anxiety because strange equipment may frighten the child. The parent/caregiver should assist with the assessment/treatment when possible, such as by holding the child, and the pediatric nurse should explain to the child in simple terms that are age-appropriate what the assessment/treatment will entail.

105.

If a child had a bone scan with radioisotope dye, what precautions should family and staff utilize to prevent exposure to radiation?

No precautions are necessary.

Stay 3 feet away from the child except for necessary care for 24 hours.

Wear protective shielding for close contact.

Avoid contact with all body fluids.

Explanation:

If a child had a bone scan with radioisotope dye, no precautions are necessary to prevent exposure to radiation as the radiation emitted is similar to that of a standard x-ray. The bone scan helps to determine the size and location of a lesion as diseased tissue has increased dye uptake. The radioisotope is administered intravenously two to four hours prior to the primary

imaging to allow circulation and absorption of the radioisotope by the bone. All of the dye is usually eliminated from the body within two days.

106.

According to the International Neuroblastoma Staging System (INSS), a localized tumor with or without complete gross resection with positive lymph nodes on the same side as the tumor but negative enlarged contralateral lymph nodes is classified as:

2A.

2B.

3.

4.

Explanation:

According to the International Neuroblastoma Staging System (INSS), a localized tumor with or without complete gross resection with positive lymph nodes on the same side as the tumor is classified as 2B.

1 *Complete excision. Lymph nodes negative.*

2A *Incomplete excision with negative ipsilateral lymph nodes.*

2B *As above. Contralateral lymph nodes are enlarged but negative*

3 *Unresectable unilateral, infiltrating across midline and/or contralateral positive lymph nodes*

4 *Primary tumor with distant metastasis.*

4S *Localized primary tumor with metastasis limited to skin, liver and bone marrow (limited) s in children under 1 year of age.*

107.

The chromosomal mutation that is common to most cases of Ewing sarcoma is:

deletion.

duplication.

inversion.

translocation.

Explanation:

The chromosomal mutation that is common to most cases of Ewing sarcoma is translocation. About 90% of cases involve translocations between chromosomes 11 and 22 (11;22q24;q12). Other translocations may also occur. Over half of patients have trisomy 8; and a third, trisomy 12. Ewing sarcoma family of tumors (ESFT) comprise the second most common bone cancer in pediatric patients (34% of bone cancers). ESFT most commonly occur in children between the ages of 10 and 20.

108.

A child receiving chemotherapy is neutropenic with abdominal distention, bloody diarrhea, pain in the RLQ, fever, nausea, and vomiting. CT scan shows dilatation and wall-thickening of the cecum and ascending colon. The nurse recognizes that the most likely cause is:

neutropenic enterocolitis (typhlitis).

bowel obstruction.

Clostridium difficile infection.

irritable bowel syndrome.

Explanation:

If a child receiving chemotherapy is neutropenic with abdominal distention, bloody diarrhea, pain in the RLQ, fever, nausea, and vomiting and CT scan shows dilatation and wall-thickening of the cecum and descending colon, the most likely cause is neutropenic enterocolitis (typhlitis). Neutropenic enterocolitis is associated with myelosuppression and chemotherapeutic agents (such as vinca alkaloids, cytosine arabinoside, and doxorubicin) that cause mucosal damage, especially of the cecum. Complications may include bowel perforation, abscess, and sepsis.

109.

An 18-month-old patient no longer cries when the parents leave and seems content with all caregivers. The nurse suspects that the child is:

in the protest stage of separation anxiety.

in the despair stage of separation anxiety.

in the denial/detachment stage of separation anxiety.

no longer suffering from separation anxiety.

Explanation:

If an 18-month-old patient no longer cries when the parents leave and seems content with all caregivers, the pediatric nurse should suspect that the child is in the denial stage of separation anxiety, common to toddlers and preschoolers.

Separation anxiety	
Protest stage	*Child cries and clings to parents and refuses comfort from other adults.*
Despair stage	*Child appears sad and withdrawn and cries on return of parents.*
Denial/Detachment stage	*Child no longer shows emotions related to parents' leaving and appears happy with caregivers.*

110.

The initial treatment for Wilms tumor of one kidney is usually:

radiation.

chemotherapy.

combination radiation/chemotherapy.

surgical resection (nephrectomy).

Explanation:

The initial treatment for Wilms tumor of one kidney is usually surgical resection (nephrectomy) although the other kidney and lymph nodes must be examined for indications of malignancy as bilateral involvement is common. It the tumor is very large or has spread to the vasculature, then preoperative chemotherapy may be administered; however, this prevents adequate staging of the tumor. Preoperative chemotherapy is also administered with bilateral lesions, followed by

complete resection of the kidney with the greatest malignant burden and partial excision of the other kidney.

111.

What type of pain do muscle and joint pain represent?

Visceral pain.

Phantom pain.

Sympathetically-maintained pain.

Somatic pain.

Explanation:

Muscle and joint pain represent somatic pain.

Type	*Characteristics*	*Management*
Somatic	*Throbbing, aching pain of muscles, joints, bones, skin/connective tissue*	*Acetaminophen, NSAIDs, opioids (depending on severity).*
Visceral	*Poorly localized aching pain involving internal organs.*	*Opioids most effective.*
Neuropathic	*Centrally-generated (such as phantom pain) and sympathetically-maintained (associated with dysregulation of ANS involving fractures, soft-tissue injuries, ischemic injuries). Pain is electric, burning, shocking, stabbing, shooting.*	*Adjuvants, such as gabapentin and TCAs.*

112.

Which of the following drugs used to prevent and treat GVHD inhibits DNA synthesis?

Pentostatin.

Tacrolimus.

Rituximab

Thalidomide.

Explanation:

Pentostatin (Nipent®), which inhibits DNA synthesis, is used to prevent and treat GVHD. Other drugs that inhibit DNA synthesis include azathioprim and methotrexate. Pentostatin is FDA approved to treat hairy cell leukemia but is used off-label for AGVHD, CGVHD, CCL and other types of leukemia. Common side effects include nausea and vomiting, pancytopenia, rash, fever, and general fatigue. High doses may result in CNS toxicity as well as pulmonary and renal damage.

113.

Which pain assessment tool is most appropriate for the nurse to use for a 2-year-old child?

CRIES.

FACES.

CHEOPS.

0-10 scale.

Explanation:

CHEOPS: This tool is most appropriate for a 2-year old as it is used for children ages 1-7. The tool is based on scores of 6 different characteristics (crying, facial expression, verbalization, torso, upper extremities, lower extremities) with scores of 0-2 except for crying, which is scored 0-3. A score >4 indicates pain. FACES (Wong-Baker): Facial expression scale for children over age 3 and nonverbal adults. CRIES: Assesses crying, requirement for O2 or SaO2 <95%, increased VS, expression, and sleep to evaluate pain in neonates and infants 6 months or younger. 0-10 pain intensity scale: Used for adolescents and adults.

114.

By which age does the nurse generally expect a child to have an understanding of death similar to adult understanding?

6 to 8.

9 to 10.

11 to 12.

13 to 14.

Explanation:

The nurse should generally expect a child by age 9 to 10 to have an understanding of death similar to adult understanding. The child may have a delayed reaction to death and may be reluctant to talk about it but may have various somatic complaints and academic difficulties. Preschoolers often confuse death with falling asleep or going away and expect a person or animal that has died to return. By 6 years of age, the child usually understands that death is permanent and that the person or animal is not going to return.

115.

Spinal cord tumors are most common in children ages:

10 to 16.

6 to 9.

3 to 5.

1 to 2.

Explanation:

Spinal cord tumors are intramedullary lesions that are most common in children ages 10 to 16. About 60% of spinal cord tumors are astrocytomas (usually of low histology) and incidence is similar in males and females. Treatment includes surgical resection, usually followed by radiation. On presentation, children may have pain, spinal deformity, and sensory deficits, such as paresthesia. Spinal cord tumors account for 4 to 6% of pediatric tumors of the central nervous system.

116.

A 3-year-old patient with sickle cell disease presents in the emergency department with fever, chest pain, back pain, dyspnea, cough, and oxygen saturation of 91%. The most likely complication the child is experiencing is:

aplastic crisis.

vaso-occlusive crisis.

splenic sequestration.

acute chest syndrome.

Explanation:

If a 3-year-old patient with sickle cell disease presents in the emergency department with fever, chest pain, back pain, dyspnea, cough, and oxygen saturation of 91%, the most likely complication the child is experiencing is acute chest syndrome. This complication most commonly affects children ages 2 to 4 and results from infiltration of the lungs with the abnormally-shaped red blood cells. This in turn can lead to infection, fat embolism, and pulmonary infarct and can progress to respiratory failure and death.

117.

A 10-year-old child who is being treated for leukemia has been very ill but is now to be discharged and continue outpatient treatments, but the parents are very anxious. Which of the following referrals may provide the best support?

Psychologist.

Social worker.

Spiritual counselor.

Leukemia family support group.

Explanation:

While parents differ in their needs when a child (such as a 10-year-old child with leukemia) is ill, they often find some comfort from interacting with parents in the same situation, such as those in a leukemia family support group. Parents may feel more able to express their fears and

discuss problems they are facing with other parents than with healthcare providers. In some cases, peer support groups are also available for children.

118.

A 14-year-old male patient has undergone an AK amputation for osteosarcoma. Which of the following behaviors indicates a readiness to learn about self-care?

The patient plays video games during dressing changes.

The patient is cheerful and acts as though nothing has changed.

The patient looks at the stump and asks questions.

The patient is withdrawn and states he wants to go home.

Explanation:

If a 14-year-old male patient has undergone an AK amputation for osteosarcoma, the behavior that indicates a readiness to learn about self-care is when the patient looks at the stump and asks questions. Playing video games suggests the patient is practicing avoidance, and being overly cheerful or withdrawn may indicate denial and the inability to deal with the amputation. The nurse should remain supportive and give the patient time to come to terms with the change in his body image.

119.

Prior to administration of a vesicant, the nurse flushes the IV with ease but is unable to obtain a blood return. The nurse should:

hold the vesicant.

administer the vesicant.

flush the IV again before administering the vesicant.

apply a cold compress to the IV insertion site and administer the vesicant.

Explanation:

If, prior to administration of a vesicant, the nurse flushes the IV with ease but is unable to obtain a blood return, the nurse should hold the vesicant and follow protocol for dealing with an IV with inadequate blood return. In some cases, the IV made need to be restarted to ensure patency. Extravasation is likely to occur if there is no blood return, suggesting that the IV is in some way impaired or blocked.

120.

The most common type of hemophilia is type A, which involves the lack of clotting factor:

V.

VII.

IX

XI.

Explanation:

The most common type of hemophilia is type A, which involves the lack of clotting factor VIII and accounts for about 85% of cases of hemophilia. Type B involves lack of clotting factor IX; and type C (rare in the US), clotting factor XI. The severity of the disease relates to the amount

of clotting factor in the blood. Typical symptoms of hemophilia include bleeding that is difficult to stop, unexplained bruises and joint pain/swelling, spontaneous hemorrhage, and epistaxis. Desmopressin may be used to stimulate production of the clotting factor (in mild cases) or infusions of clotting factor.

121.

The nurse applies EMLA cream to the puncture site before a child's chemotherapy treatment. To be effective, the EMLA cream should be applied:

5 to 10 minutes before the procedure.

20 to 30 minutes before the procedure.

30 to 60 minutes before the procedure.

1 to 2 hours before the procedure.

Explanation:

If the pediatric nurse applies EMLA cream (Eutectic Mixture of Local Anesthetics—lidocaine 2.5% and prilocaine 2.5%) to the puncture site before a child's chemotherapy treatment, to be effective, the EMLA cream should be applied at least 1-2 hours before the procedure but reaches peak analgesia after 2-3 hours. The EMLA cream should be applied to the skin and covered by an occlusive dressing, such as plastic wrap.

122.

If a child is experiencing weight loss, night sweats, and lymphadenopathy, which of the following malignancies does the nurse suspect?

Hodgkin lymphoma.

Non-Hodgkin lymphoma.

Leukemia.

Ewing sarcoma.

Explanation:

If a child is experiencing weight loss, night sweats, and lymphadenopathy, these signs and symptoms suggest Hodgkin lymphoma, which accounts for 6% of childhood cancers. Hodgkin lymphoma may involve the spleen and lymph nodes throughout the body, depending on the subtype and severity of the disease. Subtypes include nodular sclerosis HL, mixed-cellularity HL, lymphocyte-rich HL, lymphocyte-rich classic HL, lymphocyte-depleted HL, and nodular-lymphocyte-predominant HL. Incidence is 4 times higher in males than females for patients under 8 but is relatively the same by age 10.

123.

Which of the following complementary therapies has been shown to reduce chemotherapy-induced nausea and vomiting?

Aromatherapy.

Acupuncture.

Massage.

Yoga.

Explanation:

Acupuncture is part of traditional Chinese medical practice and has been shown to reduce chemotherapy-induced nausea and vomiting in a number of studies, especially acute vomiting. Acupuncture involves insertion of needles into meridians, specific points on the body. Acupuncture is generally safe because it is done with very small sterile disposable needles although there may be a slight risk of infection or bleeding with those who are severely immunocompromised. Acupressure, a similar therapy where pressure is applied without needling, is also effective in reducing nausea.

124.

The criteria for sepsis are based on which of the following three symptoms?

Altered mental status, tachypnea, and hypotension.

Fever, chills, and tachycardia.

Altered mental status, hypertension, and bradycardia.

Fever, tachycardia, and hypotension.

Explanation:

According to the Third International Consensus Definitions Task Force, the criteria for sepsis are based on three symptoms: (1) altered mental status, tachypnea (>22 bpm), and hypotension (≤ 100 mm Hg systolic). Sepsis is an inflammatory response to infection that results in organ dysfunction. Sepsis is sometimes described in stages: (1) fever and tachycardia, (2) dyspnea and organ dysfunction, and (3) septic shock with severe hypotension. The term septicemia should generally be avoided as it has been defined in different ways.

125.

A 9-year-old child is receiving enteral feedings but has developed diarrhea. An appropriate initial intervention is:

increase sodium in formula.

elevate head of bed during feedings.

increase rate of feedings.

slow rate of feedings.

Explanation:

If a 9-year-old child is receiving enteral feedings but has developed diarrhea, an appropriate initial intervention is to slow the rate of feeding or use a continuous drip. Medications should be evaluated to determine if they may be the cause of the diarrhea, and decreasing sodium and increasing fiber in formula may be indicated. The tubing should be changed at least every 24 hours to prevent bacterial growth, and feedings should not be hung for more than 4 hours.

126.

Two weeks after beginning chemotherapy, a patient presents with abdominal pain and distension, hepatomegaly, edema, mild jaundice, and weakness. ALT and AST are markedly elevated. The most likely reason for these signs and symptoms is:

pancreatitis.

sinusoidal obstruction syndrome.

metastatic hepatic lesions.

hepatitis.

Explanation:

If two weeks after beginning chemotherapy, a patient presents with abdominal pain and distension, hepatomegaly, edema, mild jaundice, and weakness and the ALT and AST are markedly elevated, the most likely reason for these signs and symptoms is sinusoidal obstruction syndrome. Acute sinusoidal obstruction syndrome (AKA veno-occlusive disease) usually occurs within 1 to 3 weeks of initiating chemotherapy. Agents that are most often implicated include alkylating agents, platinum drugs, and thiopurines.

127.

A patient who requires repeated transfusions of packed red blood cells (PRBCs) is especially at risk for:

thrombus formation.

infection with hepatitis.

iron overload.

sepsis.

Explanation:

Repeated transfusions of PRBCs put the patient especially at risk for iron overload. One unit of PRBCs contains 250 mg of iron, and the excess may accumulate in body organs, including the heart, liver, testes, and pancreas. The usual treatment for primary iron overload is phlebotomy, but this is contraindicated in people needing transfusions, so iron chelation therapy is indicated to prevent permanent organ damage. Chelating agents bind with iron in the blood and allow it to be more easily eliminated in stool and urine.

128.

A 6-year-old child who is new to the pediatric oncology unit is drawing a picture of a boy in a bed crying, with large tears on the face falling onto the pillows. Which of the following is the most appropriate statement by the nurse to elicit the child's feelings?

"Why is the little boy in your picture crying?"

"Is the little boy afraid to be in the hospital?"

"I see that the little boy in your picture is crying."

"Did something hurt the little boy?"

Explanation:

The nurse should not interrupt a child at play with a direct question, which interferes with the child's process of working out feelings of anxiety and may cause increased stress. A better approach is to use a reflective statement, such as "I see that the little boy in your picture is crying" or "I wonder why the little boy is crying," and leave it to the child to respond or not. Focusing on the picture rather than the child may be less threatening and help the child to explain why the child in the picture is crying.

129.

Which of the following is the greatest risk factor for the development of disseminated intravascular coagulation in patients with cancer?

Sepsis.

Hypersensitivity reaction.

Tumor lysis syndrome.

Cachexia.

Explanation:

The greatest risk factor for the development of disseminated intravascular coagulation (DIC) in patients with cancer is sepsis. Sepsis causes a systemic inflammatory reaction and leads to hemostatic instability, which may include thrombocytopenia, hypercoagulability, and increased thrombin/fibrin formation. Gram-negative bacteria release endotoxins that activate the Hageman factor (Factor XII), which is part of the coagulation cascade and stimulates fibrinolysis. DIC is associated with a number of different cancers, including leukemia, and adenocarcinomas of various organs.

130.

Tumor lysis syndrome is NOT characterized by:

hyperphosphatemia.

hypercalcemia.

hypokalemia.

hypouricemia.

Explanation:

Tumor lysis syndrome, brought about by rapid lysis of cancer cells and deposition of waste products in the blood, is characterized by hyperphosphatemia, hyperuricemia, and hyperkalemia. The hyperphosphatemia can lead to hypocalcemia; however, the most life-threatening imbalance is hyperkalemia. Hyperkalemia may respond to IV or inhaled albuterol. Untreated, tumor lysis syndrome may lead to kidney failure and death. Tumor lysis syndrome poses the greatest risk with T and B-cell lymphomas and leukemias and tumors with a large bulk.

131.

Under the TNM staging system, a tumor is staged T3 N2 MX. What does MX mean?

No distant metastasis.

One distant metastasis.

Multiple distant metastases.

Distant metastasis cannot be evaluated.

Explanation:

Under the TNM staging system, X means that the element cannot be evaluated:

- *Tumor (T): Staged as X, 0 (no evidence), is (in situ), or 1 to 4 (depending on size and extent).*
- *Nodes (N): Staged as X, 0, or 1 to 3 (depending on number of lymph nodes or degree of spread).*
- *Metastasis (M): Staged as X, 0, or 1 (for distant spread).*

Thus, a tumor classified as T3 N1 M0 is a large tumor with spread to a regional lymph node but no distant metastasis.

132.

Following removal of a tumor near the pituitary in a 12-year-old, if the child exhibits increased thirst and polyuria, urine and serum osmolality is <300 mOsm/kg, serum sodium is <145 mEq/L, and specific gravity <1.005, the most likely diagnosis is:

normal findings.

diabetes mellitus.

diabetes insipidus.

renal failure.

Explanation:

If following removal of a tumor near the pituitary in a 12-year-old exhibits increased thirst and polyuria, urine and serum osmolality is <300 mOsm/kg, serum sodium is <145 mEq/L, and specific gravity <1.005, the most likely diagnosis diabetes insipidus. This may be a temporary or permanent condition. The initial treatment should be to increase fluid intake orally and/or per IV fluids to combat hypernatremia. Fluids and electrolytes must be carefully monitored. If necessary, desmopressin (synthetic analog of vasopressin) may be administered.

133.

Beta thalassemia is caused by genetic abnormality on chromosome:

11.

12

14.

16.

Explanation:

Beta thalassemia is caused by genetic abnormality on chromosome 11. Hundreds of different mutations are possible, so the clinical presentation of beta thalassemia can vary widely. Thus,

some children have beta thalassemia intermedia with mild symptoms, requiring only occasional transfusions, while others have beta thalassemia major with more severe symptoms. If children are not treated with necessary transfusions, the marrow may expand to try to increase production, resulting in bone changes and deformities.

134.

The purpose of saline suspension of platelets is to:

inhibit the growth of bacteria.

reduce the number of red blood cells.

reduce the number of white blood cells.

extend administration time.

Explanation:

The purpose of saline suspensions of platelets is to reduce the number of white blood cells. With saline suspension, some of the plasma (which often contains some white blood cells and other cellular waste products) is removed and replaced with saline, so the number of platelets remains unchanged. White blood cells that remain in a unit of platelets may trigger severe transfusions reactions. Pediatric volume of platelets is 10 mL/kg or one unit per each year of the child's age.

135.

A child with acute myeloid leukemia presents with a symptomatic white blood cell count of 180,000/µL, indicating hyperleukocytosis. The initial treatment usually includes hydration and:

desmopressin and chemotherapy.

hydration and hydroxyurea.

desmopressin.

glucocorticoids.

Explanation:

If a child with AML presents with a white blood cell count of 180,000 µL, indicating hyperleukocytosis, the initial treatment usually includes hydration and hydroxyurea as well as rapid induction of chemotherapy to reduce the overall number of leukemic cells. While hyperleukocytosis can affect any organ, common manifestations include impaired pulmonary, cerebral, penile, sensory, and renal circulation, resulting in a wide range of related symptoms, such as dypsnea, dizziness, tinnitus, hearing/vison impairment, cyanosis, slurring of speech, and priapism.

136.

When addressing fertility issues associated with radiation therapy, the first step is to:

provide literature regarding fertility.

suggest referral to an endocrinologist.

ask parents if they want to discuss the issue.

assess Tanner stages and development.

Explanation:

When addressing fertility issues association with radiation therapy, the first step is to assess Tanner stages and development. The most common assessment tool for sexual maturity is Tanner's 5 stages of assessment. This tool assesses maturity for both males and females, based on direct observation of breasts and genitals:

- *Females: breast development, onset of menses, and pubic hair distribution.*
- *Males: Penis and testes development and pubic hair distribution.*

While decisions about fertility issues for small children are made by parents, adolescents and mature preadolescents should be included in the conversation and decision-making.

137.

Splenic sequestration associated with sickle cell disease usually occurs between ages 9 months and:

18 months.

2 years.

4 years.

6 years.

Explanation:

Splenic sequestration associated with sickle cell disease usually occurs between ages 9 months and 4 years and is very rare after age 5. With splenic sequestration, sickled cells begin to pool in the spleen. This can result in an acute decrease in Hgb and circulatory collapse within a few minutes. The spleen may feel distended and painful and is at risk of rupture. Over time, the spleen becomes atrophic and non-functioning, increasing the risk of infection. If splenic sequestration is recurrent, the child may need a splenectomy.

138.

With warm-antibody autoimmune hemolytic anemia, which type of immunoglobulin attaches to red blood cells?

IgA.

IgE.

IgM.

IgG.

Explanation:

With warm-antibody autoimmune hemolytic anemia, the immunoglobulin IgG attaches to receptors on red blood cells. IgG is targeted by monocytes and macrophages in the spleen, resulting in damage to the red blood cell membrane, which causes the red blood cells to change to a spherical shape (spherocytes). Unfortunately, spherocytes are targeted for destruction in the spleen. Red blood cells become trapped in the spleen, causing it to enlarge.

139.

At what hemoglobin level does a child with symptomatic anemia usually begin to receive transfusions?

4 to 5 g/dL.

6 to 7 g/dL.

8 to 9 g/dL.

9 to 11 g/dL.

Explanation:

The hemoglobin level at which a child with symptomatic anemia usually begins to receive transfusions is 6 to 7 g/dL. Anemia is usually treated with irradiated packed red blood cells. The cells are irradiated to inactivate T-lymphocytes and reduce the risk of transfusion-associated GVHD. The cells also undergo leukoreduction to reduce transmission of infection, viruses, and parasites (such as Trypanosoma cruzi). This is especially important for immunocompromised patients. The transfusion volume varies by weight, usually administered at 10 mL/kg.

140.

How soon after initiation of chemotherapy does thrombocytopenia usually develop?

One week.

Two weeks.

Four weeks.

Six weeks.

Explanation:

After initiation of chemotherapy, thrombocytopenia usually develops within one week although it may extend to three weeks with some types of chemotherapy. Because chemotherapy destroys cells that are dividing rapidly, the number of platelet precursors falls, so not enough platelets are produced. Children diagnosed with leukemia often present with thrombocytopenia already. Typical indications include bruising and bleeding (nose, gums, mouth, urine, stool). Minor bleeding (such as from the gums) occurs when the platelet count drops to 20,000/mm^3 and more severe bleeding at 10,000/mm^3.