

Practice Exam Questions



CWCN

Certified Wound Care Nurse



EXAMAIDES

PASS YOUR EXAM AT FIRST TRY

Total Question: 120 QAs

Question No: 1

Which of the following extends from a wound under normal tissue and connects two structures, such as the wound and an organ?

- A. undermining
- B. fistula
- C. tunneling
- D. abscess

Answer: B

Explanation: A fistula extends under normal tissue away from the wound and connects two structures, such as the wound and an organ or the wound and the skin. Undermining occurs when damaged tissue lies underneath intact skin about the wound perimeter. Tunneling is damaged tissue extending from the wound under normal tissue, but not opening to the skin or other structures. An abscess is a collection of purulent material in a localized area, often occurring with a fistula.

Question No: 2

A patient has a wound on the right hip with tunneling and fistulae. Which of the following is MOST indicative of an abscess formation?

- A. increased purulent discharge
- B. increased wound pain
- C. increased erythema and swelling at wound perimeter
- D. erythematous, painful, swollen area 3 cm from wound perimeter

Answer: D

Explanation: Abscesses often form in conjunction with fistulae. Typical indications include erythema, pain, and swelling above the localized area of the abscess. If the abscess is deep within the tissue or within an internal organ, however, obvious signs of abscess formation may not be evident, and symptoms may be less specific, including general malaise, abdominal pain, chills, fever, lethargy, diarrhea, and anorexia. Additional symptoms may be specific to the site of the abscess, for example a perirenal abscess may cause flank pain.

Question No: 3

Which of the following laboratory tests is the most effective to monitor acute changes in nutritional status?

- A. total protein
- B. albumin
- C. prealbumin
- D. transferrin

Answer: C

Explanation: Prealbumin is most commonly monitored for acute changes in nutritional status because it has a half-life of only 2 to 3 days. Prealbumin decreases quickly when nutrition is inadequate and rises quickly in response to increased protein intake. Protein intake must be adequate to maintain normal levels of prealbumin.

- Normal value: 16 to 40 mg/dL.
- Mild deficiency: 10 to 15 mg/ dL

- Moderate deficiency: 5 to 9 mg/dL.
- Severe deficiency: <5 mg/dL.

Total protein levels and transferrin levels may be influenced by many factors, so they are not reliable measures of nutritional status. Albumin has a half-life of 18 to 20 days, so it is more sensitive to long-term protein deficiencies than to short-term deficiencies.

Question No: 4

On the eighth day of wound care, granulation tissue is evident about the wound perimeter, and the wound is beginning to contract. The wound is in which of the following phases of healing?

- A. proliferation
- B. inflammation
- C. hemostasis
- D. maturation

Answer: A

Explanation: Proliferation (days 5 to 20) is characterized by granulation tissue starting to form at wound perimeter, contracting the wound, and epithelialization, resulting in scar formation. Hemostasis (within minutes) occurs as platelets seal off the vessels and the clotting mechanism begins. Inflammation (days 1 to days 4 to 6) is characterized by erythema and edema as phagocytosis removes debris. During maturation or remodeling (days 21 plus), scar tissue continues to form until the scar has about 80% of original tissue strength, and the wound closes; the underlying tissue continues to remodel for up to 18 months.

Question No: 5

Which of the following is the correct procedure for applying Eutectic Mixture of Local Anesthetics (EMLA Cream) to a wound prior to debridement?

- A. apply a thin layer (1/8 inch thick) to the wound for 15 minutes, leaving the wound open
- B. apply a thick layer (1/4 inch thick) to the wound, extending 1/2 inch past the wound onto surrounding tissue, and cover with plastic wrap for 20 to 60 minutes
- C. apply a thick layer (1/4 inch thick) to the wound surface only and cover with plastic wrap for 15 minutes
- D. apply a thin layer (1/8 inch thick) to the wound surface only and cover with a loose dry dressing for 20 to 60 minutes

Answer: B

Explanation: Eutectic Mixture of Local Anesthetics (EMLA Cream) is applied thickly (1/4 inch) to both the surface of the wound and surrounding tissue, extending about 1/2 inch past the wound. After application, the wound must be covered with plastic wrap for 20 to 60 minutes to numb the tissue. EMLA cream is effective for about an hour after the wrapping is removed. EMLA can interact with a number of different medications, such as antiarrhythmics, anticonvulsants, and acetaminophen, so medications should be carefully reviewed prior to administration.

Question No: 6

When doing a routine dressing change for a healing decubitus ulcer on the right hip, which is the most appropriate cleaning solution?

- A. povidone-iodine solution
- B. hydrogen peroxide
- C. alcohol

D. normal saline

Answer: D

Explanation: Normal saline is the most appropriate wound-cleansing solution. Antiseptic solutions should be avoided, as they may damage granulation tissue and retard healing, because they interfere with fibroblast cells necessary for healing of the wound, cause increased pain, and do not significantly reduce overall bacterial load. In heavily-contaminated or necrotic wounds, topical antiseptic solutions, such as dilute povidone-iodine or hydrogen peroxide, may be used for a short period of time to reduce surface bacteria and foul odor.

Question No: 7

Which of the following wound irrigation devices will provide approximately 8 psi in irrigant pressure to the wound surface?

A. 35-mL syringe with 19-gauge Angiocath

B. 250-mL squeeze bottle

C. bulb syringe

D. 6-mL syringe with 19-gauge Angiocath

Answer: A

Explanation: A 35-mL syringe with 19-gauge needle provides irrigation pressure at about 8 psi. A squeeze bottle (250 mL) provides about 4.5 psi, but a bulb syringe usually only ≤ 2 psi. Both syringe/catheter and needle size affect irrigant pressure. Pressures < 4 psi do not provide adequate wound cleansing, but pressures > 15 psi can result in wound trauma.

- 6 mL/ 19 gauge = 30 psi
- 12 mL/ 19 gauge = 20 psi
- 12 mL/ 22 gauge = 13 psi
- 35mL/ 21 gauge = 6 psi
- 35mL/ 25 gauge = 4 psi

Question No: 8

Which of the following is the most important criterion when assessing a patient's level of wound pain?

A. patient's behavior

B. type of wound

C. patient's report of pain

D. patient's facial expression

Answer: C

Explanation: Perceptions and expressions of pain vary widely from one individual to another, so the most important criterion for evaluating pain is the patient's own report of pain. Cultural differences have a role in how people express pain, with some cultures typically appearing more stoic than others.

Using a 1 to 10 pain scale is an effective tool for people who are cognitively alert. If people are not able to report their pain level, then observation of behavior and facial expressions may give clues to their need for pain medication.

Question No: 9

Which of the following is likely to have the MOST negative effect on wound healing for a 65-year-old woman?

A. hypoalbuminemia

B. BM! of 20.2

- C. BMI of 28
- D. vegan diet

Answer: A

Explanation: Hypoalbuminemia is likely to have the most negative effect on wound healing.

Hypoalbuminemia is an indication of protein malnutrition (kwashiorkor) and may cause delayed wound healing because of inadequate nutrition. A BMI of 20.2 is within normal range (18.5 to 24.9) and indicates normal weight. A person with a BMI of 29 is overweight, but not obese. Both being underweight (BMI <18.5) and obese (BMI > 30) can interfere with the body's ability to heal. BMI alone is not adequate to assess nutritional status or healing ability and vegan diets can provide adequate nutrition.

Question No: 10

Which of the following is the most definitive method for obtaining a wound specimen for culture and sensitivities?

- A. tissue biopsy
- B. sterile swab of wound
- C. needle biopsy
- D. sterile swab of discharge

Answer: A

Explanation: The most definitive method of obtaining a wound specimen for culture and sensitivities is with a tissue biopsy. A needle biopsy can also provide an adequate sample in many cases. Swabbing a wound with a sterile applicator often does not provide an adequate sample, because this method obtains material only from the wound surface, which may include both pathogenic agents from the wound and contamination from skin bacteria. The tissue itself must be cultured, not just the discharge.

Question No: 11

A patient with an infected abdominal wound is taking a number of drugs. Which of the following is most likely to impair healing?

- A. phenytoin
- B. corticosteroid
- C. prostaglandin
- D. estrogen

Answer: B

Explanation: Corticosteroids may impair wound healing by interfering with vascular proliferation and epithelialization. The anti-inflammatory effect may interfere with the inflammatory phase of healing by decreasing migration of macrophages and polymorphonuclear leukocytes to the wound, interfering with angiogenesis, and increasing susceptibility to wound infection. Other drugs that may impair healing include vasoconstrictors, NSAIDs, aspirin, colchicine, immunosuppressants, DMARDs (anti-rheumatoid-arthritis drugs), and anticoagulants. Some drugs appear to promote wound healing, including phenytoin, prostaglandin, and estrogen.

Question No: 12

A burn extending through the dermis with obvious blistering would be classified as

- A. first degree.
- B. second degree.

- C. third degree.
- D. full thickness.

Answer: B

Explanation: A burn extending through the dermis with obvious blistering would be classified as a second degree burn. A first-degree burn is superficial and involves only the epidermis. First and second degree burns, like other wounds, may also be classified as partial-thickness injuries, because the vessels and glands necessary for healing remain intact. A third-degree burn, also classified as a full thickness injury, extends through the dermis and into the underlying subcutaneous tissue and may extend through vessels, nerves, muscle and even to the bone.

Question No: 13

Which of the following results from smoking cigarettes?

- A. vasodilation
- B. vasoconstriction
- C. increased oxygen transport
- D. increased oxygen tension

Answer: B

Explanation: The nicotine in cigarettes is a powerful vasoconstrictor and interferes with oxygen transport. The carbon monoxide from smoking displaces oxygen on hemoglobin, decreasing the level of oxygen in the blood. Vasoconstriction reduces delivery of nutrients needed for healing. Peripheral blood flow can be reduced by 50% for up to 60 minutes after smoking a cigarette, and oxygen tension may be reduced for 120 minutes. Additionally, nicotine increases the heart rate and blood pressure, so the heart requires more oxygen to function adequately, while receiving less.

Question No: 14

When calculating the ankle-brachial index (ABI), if the ankle systolic pressure is 90 and the brachial systolic pressure is 120, what is the ABI?

- A. 1.33
- B. 13.3
- C. 7.5
- D. 0.75

Answer: D

Explanation: The ankle-brachial index (ABI) examination evaluates peripheral arterial disease of the lower extremities. The ankle and brachial systolic pressures are obtained, and then the ankle systolic pressure is divided by the brachial systolic pressure to obtain the ABI. If the ankle systolic pressure is 90 and the brachial systolic pressure is 120: $90 \text{ divided by } 120 = 0.75$. Normal value is 1 to 1.1 with lower values indicating decreasing perfusion. A value of 0.75 indicates severe disease and ischemia.

Question No: 15

Using transcutaneous oxygen pressure measurement (TCPO₂), which of the following values indicates that oxygenation is adequate for healing?

- A. 18 mm Hg
- B. 20 mm Hg
- C. 30 mm Hg

D. 42 mm Hg

Answer: D

Explanation: Transcutaneous oxygen pressure measurement (TCPO₂) is a noninvasive test that measures dermal oxygen, to show the effectiveness of oxygen in the skin and tissues. A value of >40 mm Hg indicates adequate oxygenation for healing. Values of 20 to 40 mm Hg are equivocal findings, and values < 20 mm Hg indicate marked ischemia, affecting healing. Two or three different sites on the lower extremities should be tested to give a more accurate demonstration of oxygenation. TCPO₂ is often used to determine if oxygen transport is sufficient for hyperbaric therapy.

Question No: 16

The method of closure that involves leaving the wound open and allowing it to close naturally through granulation and epithelialization is healing by

- A. primary or first intention.
- B. secondary or second intention.
- C. tertiary or third intention.
- D. quaternary prevention.

Answer: B

Explanation: Secondary healing (healing by second intention) involves leaving the wound open and allowing it to close through granulation and epithelialization. Primary healing (healing by first intention) involves surgically closing a wound by suturing, flaps, or split or full-thickness grafts to completely cover the wound. Tertiary healing (healing by third intention) is also sometimes called delayed primary closure because it involves first debriding the wound and allowing it to begin healing while open and then later closing the wound through suturing or grafts. Quaternary prevention includes activities to prevent iatrogenic disorders/effects.

Question No: 17

A patient's laboratory results show a serum sodium of 155 mEq/L and a serum osmolality of 300 mOsm/kg. The most likely cause is

- A. infection.
- B. overhydration.
- C. dehydration.
- D. malnutrition.

Answer: C

Explanation: Increased serum sodium and serum osmolality indicate dehydration. Serum sodium measures the sodium level in the blood.

- Normal values: 135 to 150 mEq/L
- Dehydration: > 150 mEq/L

Serum osmolality measures the concentration of ions, such as sodium, chloride, potassium, glucose, and urea in the blood. Levels increase with dehydration, which stimulates the antidiuretic hormone, resulting in increased water reabsorption and more concentrated urine in an effort to compensate.

- Normal levels: 285 to 295 mill-osmoles per kilogram/ H₂O
- Dehydration: >295 mOsm/kg/ H₂O

Question No: 18

Autolytic debridement is most effective for

- A. chronic wounds.
- B. large burns.
- C. small wounds without infection.
- D. necrotic wounds.

Answer: C

Explanation: Autolytic debridement is effective for small wounds without infection, but it is slower than other types of debridement. Autolytic debridement requires an occlusive or semi-occlusive dressing to create a warm moist wound environment. Any moisture-retentive dressing, such as hydrocolloids, alginate, and hydrogels, and transparent film, can promote some degree of autolytic debridement, but because of drainage and odor, surrounding tissue must be protected with some type of skin barrier to prevent tissue maceration.

Question No: 19

Enzymatic debridement requires application of enzymes

- A. 1 to 2 times daily.
- B. 3 to 4 times daily.
- C. 1 to 2 times weekly.
- D. 3 to 4 times weekly.

Answer: A

Explanation: Enzymatic (chemical) debridement requires application of enzymes 1 to 2 times daily and is most effective for a wound with necrosis and eschar, which must be crosshatched if it is dry.

Enzymes include the following:

- Collagenase, applied 1 time daily. Wound pH must remain at 6 to 8 or the enzyme deactivates. Deactivated by Burrows solutions, hexachlorophene, and heavy metals.
- Papain/urea combinations, applied 1 to 2 times daily. Wound pH must remain at 3 to 12. Deactivated by hydrogen peroxide and heavy metals.

Question No: 20

Which of the following indicates that sharp instrument debridement must be discontinued?

- A. purulent discharge occurs
- B. black eschar is removed
- C. pain and bleeding occur
- D. patient complains of fatigue

Answer: C

Explanation: Pain and bleeding indicate that viable tissue is being debrided, so debridement must be discontinued. Only necrotic tissue/eschar should be removed by sharp debridement, removing small layers at a time to prevent injury to viable tissue. Purulent discharge often occurs with an infected wound. While patient fatigue is a concern, positioning the patient for comfort, explaining the procedure, and reassuring the patient may help the patient tolerate continuing the procedure until the wound is adequately debrided.

Question No: 21

A patient has second and third degree burns on 30% of the body and is in severe pain.

Which method of debridement is most indicated?

- A. autolytic debridement

- B. enzymatic debridement
- C. sharp instrument debridement
- D. surgical debridement

Answer: D

Explanation: Surgical debridement is most commonly used when very large amounts of tissue must be debrided, such as with extensive burns or when there is immediate debridement is needed in order to effectively treat a serious wound infection. General anesthesia allows extensive debridement to be done without the patient suffering associated pain and trauma, although postoperative pain is common. One advantage is that most debridement can be done in one procedure. Lasers may also be used for surgical debridement, with pulsed lasers posing less risk to adjacent tissue than continuous lasers.

Question No: 22

Which method of mechanical debridement may cause damage to granulation tissue and is generally contraindicated?

- A. wet-to-dry dressings
- B. whirlpool bath
- C. irrigation under pressure
- D. ultrasound treatment

Answer: A

Explanation: In the past, wet-to-dry gauze dressing were frequently used for wound care; but wet-to-dry dressings have little use in current wound care unless the wound is very small, because the gauze adheres to the wound and can disrupt granulation or epithelization. While a whirlpool bath may effectively cleanse debris from a wound, concerns about cross infection have resulted in less frequent use of the whirlpool. Ultrasound may effectively debride wounds. Irrigating a wound with pressurized solution can be effective if the pressure remains in the optimal range, usually 8 to 12 psi.

Question No: 23

Which of the following topical antimicrobials is most appropriate to treat nasal colonization of Staphylococcus aureus in a patient with an open wound?

- A. cadexomer iodine
- B. metronidazole
- C. mupirocin (Bactroban®)
- D. silver sulfadiazine

Answer: C

Explanation: Mupirocin is effective against Gram-positive organisms, such as Staphylococcus aureus and MRSA, and is used for treating nasal colonization to decrease risk of wound infection. Cadexomer iodine is effective against a wide range of bacteria, viruses, and fungi and is placed in the wound where beads of iodine swell in contact with exudate, releasing the iodine into the wound.

Metronidazole is effective against bacterial infections, such as MRSA: Silver sulfadiazine is often used to treat burns and is effective against Gram-positive organisms, including Staph, MRSA, and Strep.

Question No: 24

Which of the following is a contraindication to negative pressure wound therapy?

- A. chronic Stage IV pressure ulcer

- B. wound malignancy
- C. unresponsive arterial ulcer
- D. dehiscent surgical wound

Answer: B

Explanation: Contraindications to negative pressure wound therapy include wound malignancy, untreated osteomyelitis, exposed blood vessels or organs, and nonenteric, unexplored fistulas. Negative pressure therapy uses subatmospheric (negative) pressure with a suction unit and a semi occlusion vapor-permeable dressing. The suction reduces periwound and interstitial edema, decompressing vessels, improving circulation, stimulating production of new cells, increasing the rate of granulation and reepithelialization and decreasing colonization of bacteria NPWT is used for a variety of difficult-to-heal wounds, especially those that show less than 30% healing in 4 weeks of postdebridement treatment or those with excessive exudate.

Question No: 25

Which of the following is the primary goal in referring a patient for multidisciplinary consultation?

- A. prevention of complications
- B. treatment of complications
- C. education
- D. identification of outcomes

Answer: A

Explanation: The primary goal in referring a patient for multidisciplinary consultation is to prevent complications. A multidisciplinary team is composed of experts in a number of different fields, collaborating to address the complex problems associated with wound care and underlying pathology. Instead of the serial approach to problem solving involved in the traditional model of care, where referrals are made in response to problems that arise with little communication among specialists, the multidisciplinary approach attempts to identify potential problems and institute preventive measures at the onset, with all members communicating and sharing information.

Question No: 26

Becaplermin (Regranex®) gel is indicated for which type of wound?

- A. venous stasis ulcer
- B. pressure ulcer
- C. sutured/stapled wound
- D. diabetic ulcer

Answer: D

Explanation: Becaplermin (Regranex®) gel is indicated for treatment of peripheral diabetic ulcers extending into subcutaneous tissue or deeper with adequate perfusion. Application follows debridement and usually about 3 weeks of flooding if healing is not adequate. Becaplermin is a growth factor derived from human platelets. It is not approved for use with pressure ulcers and stasis ulcers and should not be used with closed (sutured/stapled) wounds. Becaplermin is associated with increased risk of developing malignancy and increased risk of death from existing malignancy.

Question No: 27

Which of the following types of dressing is indicated for treatment of a full-thickness infected wound with large amount of exudate?