

This open book exam is being provided to you as a study aid and as an outline to guide your reading. It will not be collected or graded. You are encouraged to discuss the questions below with the intern and the chief resident. By the end of your two-week elective, you should be able to answer the following:

Wound Healing

- I. Scar contracture is due to:
 - a) Elastic fibers
 - b) The myofibroblast
 - c) The contractile power of maturing collagen
 - d) The loss of edema from the scar
 - e) The resorption of collagen exceeding the deposition of collagen

- II. Which of the following is characteristic of the inflammatory phase of wound healing?
 - a) Massive deposition of collagen
 - b) No increase in collagen but increased collagen strength due to increasing cross links
 - c) Decrease in wound edema
 - d) Active movement of white cells from capillaries to the area of wounding

- III. Epithelial cells will bridge an incised wound in approximately:
 - a) 24 to 48 hours
 - b) 60 minutes
 - c) 3 days
 - d) 12 to 24 hours
 - e) 5 to 7 days

- IV. What is the difference between a keloid and a hypertrophic scar?

- V. What is the delay phenomenon?

Burn Care:

- I. (1) An adult with second and third-degree burns involving the head, left upper extremity has _____% of his body surface affected.
 - a) 45
 - b) 36
 - c) 27
 - d) **18**
 (2) Would the total surface change if patient were two years old?

Yes
No

- II. A third-degree burn usually appears:

- a) Dry and leathery
 - b) Waxy
 - c) Anesthetic
 - d) All of the above
 - e) None of the above
- III. (1) A burn which is painful, red and blistered is a _____ degree burn.
- a) Third
 - b) First
 - c) Second
- (2) Should the blister be removed?
- IV. (1) The fluid requirement for the first 24-hours in a 70 kilogram man with 30% second and third degree burns would be approximately:
- a) 2,000 ml
 - b) 4,000 ml
 - c) 6,000 ml
 - d) 8,000 ml
- (2) What type of fluid should be administered?
- (3) How quickly should it be given?
- V. After ascertaining that a seriously burned patient has an adequate airway, the next step should be performed in what sequence (1-4)?
- | | | | | |
|---|---|---|---|---|
| Calculate fluid requirement | 1 | 2 | 3 | 4 |
| Insert Foley catheter | 1 | 2 | 3 | 4 |
| Cleanse burn wounds | 1 | 2 | 3 | 4 |
| Start I.V. and obtain baseline blood sample | 1 | 2 | 3 | 4 |
- VI. The best method of determining adequacy of fluid resuscitation of a burn patient is the first 24-hours:
- a) Blood pressure
 - b) Urinary output
 - c) Electrolytes
 - d) Respiratory rate
 - e) Body weight
- VII. All of the following statements about burn wound classification are correct except:
- a) First-degree burns look erythematous and blanch on-pressure
 - b) Second and third-degree burns are of equal physiologic significance
 - c) Second degree burns extend through the entire epidermis to the dermis
 - d) Spontaneous regeneration of epithelium is not possible in third-degree burns
 - e) In estimating total body surface burn injury, first-second-and third-degree burns are totaled

VIII. Initial treatment of major burn patients should include all of the following except:

- a) Moderate to heavy doses of sedative/analgesics given intramuscularly for pain control
- b) Administration of prophylactic penicillin for three to four days
- c) Tetanus prophylaxis
- d) Insertion of nasogastric tube for gastric decompression
- e) Antacids and histamine H₂ receptor blockers to prevent stress gastritis

IX. The most common cause of burn in children under age 4 is:

- a) Flame
- b) Scald
- c) Flammable fluid
- d) Explosion
- e) High voltage

X. What is the most effective means of making an early diagnosis of burn wound sepsis:

- a) Serial blood culture
- b) Careful daily clinical evaluation
- c) Serial quantitative burn wound biopsy cultures
- d) Daily surface burn wound cultures
- e) Daily white blood cell and differential count

Facial Trauma:

I. The only true emergency aspects of facial trauma are:

- a) Hemorrhage and non-union
- b) Ludwig's angina and hemorrhage
- c) Airway obstruction and hemorrhage
- d) Airway obstruction and diplopia

II. A Le Fort I fracture lies:

- a) Beneath the infraorbital rims and across the nose
- b) Just above the palate
- c) Just below the palate
- d) Through the mandibular condyle

III. A Le Fort III fracture:

- a) Passes across the nose and through the orbital floor
- b) Through the pterygoid plates and zygoma
- c) Through the zygomatico frontal suture line and the orbital floor
- d) All of the above

IV. Which of the muscle is primarily responsible for opening the mandible?

V. Which of the muscle is primarily responsible for closing the jaw?

VI. What is a “blow out” fracture?

Craniofacial Surgery:

I. Inadequate contact of the soft palate with the posterior pharynx results in:

- a) Lingual thrust
- b) Faulty fricatives
- c) Velopharyngeal insufficiency
- d) Articulation defects

II. Inadequate function of the soft palate can be treated by:

- a) Speech therapy
- b) Speech bulb prosthesis
- c) Posterior pharyngeal flap
- d) All of the above

III. Limb abnormalities are seen in the following craniofacial dysostoses except:

- a) Apert’s syndrome
- b) Pfeiffer’s syndrome
- c) Carpenter’s syndrome
- d) Crouzon’s syndrome

IV. Characteristics of Crouzon’s syndrome include all of the following except:

- a) Maxillary retrusion
- b) Pseudoprognathism
- c) Exorbitism
- d) Mental retardation

V. Hemifacial microsomia: (True or False)

- | | | |
|-----|-----|--|
| (T) | (F) | a) Autosomal dominant inheritance pattern |
| (T) | (F) | b) Includes deformities of the external and middle ear, mandible and maxilla |
| (T) | (F) | c) Its Goldenhar variant is characterized by upper eyelids, vertebral and limb abnormalities |

VI. Treacher Collins syndrome includes: (True or False)

- | | | |
|-----|-----|--|
| (T) | (F) | a) Autosomal dominant inheritance |
| (T) | (F) | b) Mongoloid cant of the palpebral fissure |
| (T) | (F) | c) Hyperplastic zygomas |
| (T) | (F) | d) Notched lower eyelids |

VII. Hypertelorism is:

- a) An abnormally increased distance between the orbits medial canthal tendons
- b) Result of a viral infection
- c) Successfully treated by a combined intra and extracranial approach
- d) Frequently associated with optic eye abnormalities

Lower Extremity:

I. Sensation to the dorsal first web space of the foot is supplied by the:

- a) Superficial peroneal nerve
- b) Deep peroneal nerve
- c) Sural nerve
- d) Posterior tibial nerve

II. The anterior compartment of the lower extremity includes the following muscle except:

- a) Tibialis anterior
- b) Extensor hallicus longus
- c) Extensor digitorum longus
- d) Peroneus tertius
- e) Peroneus brevis

III. Which is the dominant artery supply to the latissimus dorsi muscle?

IV. What is the most helpful local muscle flap available for a proximal tibial fracture?

- a) Vastus medialis
- b) Vastus lateralis
- c) Gastrocnemius
- d) Soleus

V. What is the most helpful local muscle flap available for a med-tibial fracture?

- a) Tibialis anterior
- b) Flexor digitorum longus
- c) Gastrocnemius
- d) Soleus

VI. (1) What kind of skin grafts are there?

(2) What is the difference between them?

(3) What are the advantages and disadvantages of each?

VII. (1) What is a flap?

(2) What kind of flaps are there?

Microsurgery:

- I. The microscope is a useful operating tool in plastic surgery for which of the following problems:
 - a) Peripheral nerve repairs
 - b) Digital replantation
 - c) Tendon repairs
 - d) Myocutaneous pedicled flaps
 - e) Fasciocutaneous free flaps

- II. Which of the following is the most important factor determining success in repairing a peripheral sensory nerve?
 - a) Diameter of nerve
 - b) Length of time between nerve laceration and nerve repair
 - c) Distance of nerve laceration from spinal cord
 - d) Age of patient
 - e) Nutritional state of patient

- III. What is the best way to handle an amputated digit before the patient can be taken to the OR?
 - a) Put it in betadine, to prevent wound colonization
 - b) Put it in a saline bath, to keep it from drying out
 - c) Put in saline soaked gauze, and put the gauze on ice
 - d) Put it in a sealed plastic bag, and put the bag on ice
 - e) Put it in a saline soaked gauze, inside a sealed plastic bag, and put the bag on ice

- IV. All of the following are important factors in determining the success of digital replantation. Which one is the most important?
 - a) The diameter of the blood vessels
 - b) Warm ischemic time (time that digit was not perfused and not cooled)
 - c) Cold ischemic time (time that digit was not perfused, but cooled)
 - d) Age of patient
 - e) The presence/absence of severe crush injury to amputated digit & stump

- V. If a free flap is indicated for covering an open fracture of the lower extremity, which of the following would be the best type of free flap to use?
 - a) A musculocutaneous free flap
 - b) A fasciocutaneous free flap
 - c) A muscle free flap with a skin graft
 - d) A fascial free flap with a skin graft

- VI. Which of the following are well established methods of breast reconstruction currently being used today?
- a) Latissimus dorsi flap reconstruction based on the posterior intercostal perforators
 - b) Latissimus dorsi flap reconstruction based on the thoracodorsal artery
 - c) Rectus abdominus flap reconstruction based on the deep inferior epigastric artery
 - d) Rectus abdominus flap reconstruction based on the superior epigastric artery
 - e) Reconstruction with a tissue expander (and at a 2nd stage, an implant), placed under the pectoralis muscle
 - f) Reconstruction with a tissue expander (and at a 2nd stage, an implant), placed under the chest wall skin (over the pectoralis muscle)
- VII. Which of the following are alternative methods of breast reconstruction with free flaps are used today?
- a) Latissimus dorsi musculocutaneous flap
 - b) Rectus abdominus musculocutaneous flap
 - c) Gluteus maximus musculocutaneous flap
 - d) Pectoralis major musculocutaneous flap
- VIII. Which of the following are well established methods of head and neck reconstruction for cancer that are being used today?
- a) Pectoralis major myocutaneous free flap
 - b) Radial forearm fasciocutaneous free flap
 - c) Fibular osteocutaneous free flap
 - d) Scapular/parascapular myocutaneous free flap
 - e) Trapezius myocutaneous pedicled flap
- IX. Which of the following have been proven to be true, regarding success rates in microvascular flap surgery (i.e. in determining flap survival)
- a) Vessel size – flaps with larger diameter vessels have higher success rates
 - b) Recipient site – flaps to the head, neck and breast have higher success rates than flaps to the lower extremity
 - c) Heparin use – using systematic heparinization improves the success rates
 - d) Age of patient – flaps are more successful in younger patients than older patients