ASSOCIATION OF SURGICAL TECHNOLOGISTS

SURGICAL TECHNOLOGIST CERTIFYING EXAM STUDY GUIDE, 3RD Ed.

PRACTICE EXAM #6: EXPLANATIONS WITH REFERENCES

Reference Key
Alex

Anatomy

B&K

Med Term

Memmler’s

Micro

OR Instr

Pharm

Physiology
1. B. The microvilli, villi, and the plicae circulares increase the surface area for absorption and digestion in the small intestine. (Physiology 713)

2. D. Penfield dissectors are used to separate the dura mater from the cranium during a craniotomy. The Penfield is atraumatic and its use prevents tearing the dura mater. (ST for ST 1139, 1152)

3. A. *Staphylococcus aureus* is a common flora of the skin and also thrives in the nares of the nose which are the primary source of the microorganism in the operating room. (ST for ST 131, 132, 133)

4. C. Padgett and Reese are types of dermatomes used to take skin grafts. (ST for ST 729)

5. B. Bozeman forceps are long with a double curve and are included in a D & C instrument set. (ST for ST 513, 516)

6. A. A sunburn usually only involves the epidermis (first degree) and is characterized by erythema, but not blisters. (ST for ST 732)

7. B. During an endarterectomy, loosely attached plaque can be removed from the carotid artery with the use of a Freer elevator. (ST for ST 1112)

8. C. Astrocytes are star-shaped neuroglia that attach neurons to their blood vessels. (Anatomy 574)

9. A. A shoulder roll can be used to slightly hyperextend the region to facilitate making the incision and exposing the thyroid. (ST for ST 501)

10. D. The machine that infuses the CO\(_2\) gas into the abdominal cavity is called an insufflator. (ST for ST 277)

11. B. Yankauer suction tip, Hurd dissector & Pillar retractor and palate retractor are all included on a tonsillectomy instrument set. (ST for ST 669; OR Instr 229)

12. A. A short arm cast is applied from below the elbow to the metacarpal heads and is used for fractures of the wrist and metacarpals. (ST for ST 906)

13. C. Cholesteatoma is an accumulation of squamous epithelium that forms an encrusted mass that is destructive to the middle ear. (ST for ST 641)
14. D. The ciliary muscle alters the shape of the lens to accommodate near or far vision. (Anatomy 705)

15. C. An opportunistic microorganism is capable of producing disease in an immunocompromised patient. (ST for ST 128)

16. A. Filiforms are used to bypass an obstruction. (B&K 742)

17. D. The Castroviejo needle holder is used in many surgical specialties for microsurgical purposes including ophthalmologic, plastic, vascular and neurosurgical procedures. (ST for ST 270, 596, 597)

18. B. Magnetic resonance imaging (MRI) is especially used for imaging of soft tissue; therefore it is frequently used for the diagnosis and evaluation of brain disorders. (ST for ST 402-403)

19. C. Cryptorchidism is when one or both testicles fail to descend within the first year of life. (ST for ST 873).

20. A. Le Fort II and III are performed to correct panfacial fractures. (ST for ST 719-720)

21. C. An atraumatic Weitlaner self-retaining retractor is used to facilitate exposure during a femoropopliteal bypass. (ST for ST 1097, 1125)

22. C. Xeroform is a type of nonpermeable, nonadherent, occlusive surgical dressing that is used to create an airtight and watertight seal. (ST for ST 283)

23. A. A colposcopy is performed to evaluate patients whose Pap smear results are abnormal. (B&K 696)

24. C. The pulmonary artery is the only artery in the body that carries unoxygenated blood. (Anatomy 466)

25. B. During a craniotomy Mannitol is used to reduce intracranial pressure. (ST for ST 218)

26. A. Hypotonic solution causes cells to burst due to the excessive intake of water by the cell. (ST for ST 499)

27. A. Blunt needles have a round shaft that has a blunt tip used for repair of the kidney and liver. (ST for ST 308)

28. D. Iron is the main element contained in hemoglobin. (Memmler’s 282)
29. B. The tips of the towel clip are considered contaminated since they punctured the draping material and should not be reused. The clip should be handed off the sterile field by the first scrub surgical technologist to the circulator without touching the tips. (ST for ST 173)

30. C. Deoxyribonucleic acid (DNA) forms the genetic code inside each cell and is located in the nucleus of the cell. (Physiology 68-69)

31. A. A Foley catheter is used to measure urinary output. A syringe is used to inflate the balloon with sterile water. (ST for ST 358)

32. B. Cryotherapy unit is used to seal tears and holes for the treatment of retinal detachment. (ST for ST 598)

33. D. Lack of control over urination is called incontinence. (ST for ST 853).

34. A. Sims curettes have an oval shaped end that is sharp and are used to obtain uterine tissue during a D & C. (ST for ST 516)

35. C. Enucleation is the removal of an entire eyeball, whereas, evisceration is the removal of the contents of the eye, leaving the shrunken remnants of the eye. (ST for ST 616)

36. D. Periosteal elevators, speculum, and rasp are all surgical instruments used for a repair of a nasal fracture. (B&K 902)

37. A. Orthopedic power equipment is run by nitrogen. (ST for ST 275)

38. C. The bipolar units do not require a grounding pad because the inactive dispersive electrode is built into one of the tips of the forceps. (ST for ST 113)

39. D. The recurrent laryngeal nerve must be identified and kept from injury in order to avoid the patient suffering from temporary or permanent hoarseness or loss of the voice. (ST for ST 503)

40. A. Pneumonia is most commonly caused by Streptococcus pneumoniae. (ST for ST 131)

41. B. Counts for sponges and sharps are performed before the incision, closure of the cavity and skin closure. (ST for ST 342, 344, 346-347, 386-387)

42. A. The harmonic scalpel uses a generator that converts electrical energy into ultrasonic energy which causes the blade to rapidly move which simultaneously cuts and coagulates tissue. (ST for ST 180)

43. C. Glisson’s capsule is the external covering of the liver and is made of dense connective tissue and would be encountered during a hepatic lobectomy. (ST for ST 464)
44. B. Trigeminal neuralgia is the result of irritation and compression of the fifth cranial nerve that can result in severe chronic, intractable pain. (B&K 799)

45. D. During a dacryocystorhinostomy, the ostium is created using one of the following: punches, small oscillating saw or a powered bur. (ST for ST 615)

46. C. Repositioning the ulnar nerve from the ulnar nerve groove located on the posterior of the medial condyle of the humerus to the anterior of the condyle is called transposition of the ulnar nerve. (ST for ST 1187-1188)

47. A. An Esmarch bandage is used to facilitate the drainage of blood from an extremity before the tourniquet is inflated. (ST for ST 279)

48. D. The wrist has eight bones known as carpals; they are the scaphoid, lunate, triquetrum, pisiform, trapezium, trapezoid, capitate, and hamate. (Anatomy 226)

49. B. Cephalothin sodium (Keflin®) is an antibiotic. (Pharm 134)

50. C. The process in which there is a greater movement of molecules or ions from an area of high concentration to an area of low concentration is called diffusion. (Physiology 115-116)

51. A. When two chest tubes are inserted, the upper tube is used to evacuate air and the lower tube evacuates fluids. (ST for ST 287)

52. B. Polyglycolic acid sutures are absorbed by the body and fall into the synthetic absorbable classification of sutures. (ST for ST 300)

53. D. The sterile gown and gloves should be opened on a separate surface, such as the Mayo stand or other small table when establishing the sterile field. This prevents the first scrub surgical technologist from dripping water on a sterile draped surface, such as the back table. (ST for ST 332, 336)

54. C. A cancerous growth is considered malignant. (Memmler’s 71)

55. C. Arteri/o is a combining form that refers to artery or arteries. (Med Term 540)

56. B. The myometrium is the middle layer of the uterus and consists of three layers of smooth muscle. (ST for ST 523)

57. D. The trigeminal mandibular (V3) cranial nerve carries motor fibers to the tongue and sensory impulses from the tongue to the brain. (ST for ST 1148, 1149)

58. B. Intubation occurs during the induction phase of anesthesia. (ST for ST 231)

59. A. Endemic describes a disease present in a community. (Memmler’s 83)
60. D. A footboard is placed at the end of the O.R. table to aid in preventing the patient from slipping off the table. (ST for ST 363, 364)

61. B. The pancreas is divided into three portions: head, body and tail. (Anatomy 742)

62. C. Antihistamines prevent or diminish the effects of histamine and are used in the treatment of anaphylactic reaction. (ST for ST 185, 217)

63. A. Eschar refers to the charred and pearly-white appearance of third-degree burn skin. (ST for ST 732)

64. C. When a patient has left ventricular failure an intraaortic balloon pump is inserted to provide circulatory support. (ST for ST 1058-1060)

65. D. Adenoidectomy is removal of the lymphoid adenoids located at the roof of the nasopharynx and above the soft palate to ease breathing and prevent recurrent attacks of otitis media. (ST for ST 675-676)

66. A. Patients with osteoarthritis, a type of degenerative joint disease, benefit from total hip arthroplasty. (ST for ST 897, 943)

67. D. Bur holes are placed in order to aspirate an abscess, introduce air into the lateral ventricles for ventriculography, or place a shunt. (ST for ST 1145-1146, 1152)

68. C. The canal of Schlemm is located at the junction of the sclera and cornea. (Anatomy 704)

69. B. Personal liability is the responsibility of the health care provider to do or not do something. (ST for ST 28)

70. A. A small triangular area of the bladder that is formed by the two openings of the ureters and the opening of the urethra is the trigone. (Anatomy 838)

71. D. Enuresis is a term for incontinence. (Med Term 324)

72. A. Calcium chloride is used in cardiac surgery to increase myocardial contractility. (ST for ST 217)

73. B. Any type of stones, renal or gallbladder should be sent dry to pathology. Preservative solutions destroy the stones, making it impossible for pathological examination. (ST for ST 406)

74. A. A set of Hegar dilators are included on a dilatation and curettage instrument set. They are used to dilate the opening of the cervix. (ST for ST 516, 559, 560)
75. C. If a tear cannot be repaired by the placement of sutures, a meniscectomy is performed to remove the injured portion of the bucket-handle tear in the meniscus. (ST for ST 962-963)

76. B. The prostate gland secretes an acidic liquid that contains citric acid, calcium and enzymes. (Anatomy 857)

77. D. Gynecomastia is the medical term that refers to the abnormal excess development of the male breast. (ST for ST 492)

78. B. A vertical midline incision divides the linea alba. (ST for ST 418)

79. D. Components of the electrosurgical unit are the generator, cords, foot pedal (optional), active electrode (also called the Bovie or cautery pencil), and patient return electrode. (ST for ST 110)

80. A. The pathology that involves the contraction of the palmar fascia is Dupuytren’s disease. (ST for ST 773-774)

81. D. The trachea is located anterior to the esophagus and extends from the larynx to the fifth thoracic vertebrae. It is a tubular passageway for air. (Anatomy 761)

82. A. Scopolamine is a preoperative drug delivered transdermally to prevent postoperative nausea. (Pharm 288)

83. C. To prevent cross-contamination, masks should be handled by the strings only, changed after every case, and promptly discarded in the proper receptacle. (ST for ST 327)

84. D. Right ventricular hypertrophy, an aorta that overrides the ventricular septal defect, pulmonary valve stenosis and ventricular septal defect are the four defects that are involved with tetralogy of Fallot. (ST for ST 1086)

85. C. Cholangiocath is used to instill contrast media into the biliary system intraoperatively. (ST for ST 469, 470)

86. A. Venous blood pressure within the right atrium is referred to as central venous pressure (CVP). (Alex 980; Pharm 302)

87. D. Salping/o is the root word for fallopian tube. (Med Term 546)

88. B. The open funnel-shaped distal end of each fallopian tube is the infundibulum (Anatomy 866)

89. C. The Lahey vulsellum forceps is used to grasp the thyroid and manipulate the gland during a thyroidectomy. (OR Instr 79)
90. D. The objective lens is the part of the microscope that is the most proximal to the patient. (ST for ST 276)

91. A. The majority of coagulation factors are synthesized in the liver and released into blood plasma. (Memmler’s 418)

92. C. MAC is an acronym for monitored anesthesia care, calling for the presence of an anesthesia provider. (Pharm 229)

93. B. The circulator is responsible for retrieving the sterile dressing materials, inspects the item and opens onto the sterile field. (ST for ST 386)

94. D. The ligament of Treitz stabilizes the duodenojejunal angle. (Alex 296)

95. C. Addison’s disease causes the overproduction of adrenaline. (Memmler’s 268)

96. B. When positioning the patient the head and neck is supported by the anesthesia provider to prevent injuries and the endotracheal tube from being dislodged. (ST for ST 361)

97. D. Myopia results when either the eyeball is longer than normal, or imperfections occur in the lens or cornea. (Physiology 287)

98. D. During endotracheal intubation the anesthesia provider requests cricoid pressure to prevent gastric contents from entering the lungs and trachea. The pressure is maintained until the ET tube is in the correct position. (Pharm 333)

99. C. Soda lime is used in mask inhalation anesthesia to absorb carbon dioxide. (Alex 122)

100. A. A rectocele is the prolapse of the rectum into the vaginal vault. A rectocele can be viewed pushing against the posterior vaginal wall. An anterior and posterior repair is performed to repair a cystocele and rectocele. (ST for ST 587)

101. C. The back-and forth motion is called reciprocating and the side-to-side motion is referred to as oscillating. (ST for ST 275)

102. B. CO₂ laser is used to coagulate bleeders during a laparoscopic procedure. (ST for ST 115-116)

103. A. Sterile packages that are wrapped in a pervious woven material should be considered contaminated and discarded if it falls to the floor which allows for the implosion of air into the package. (ST for ST 173)

104. D. Tensile strength refers to how much tension is necessary to break a suture, but also refers to how long the suture retains its strength while a surgical wound is healing. (ST for ST 296)
105. B. Also called Montgomery straps, it is often used for abdominal procedures and the wound must be frequently inspected or dressings changed. (ST for ST 283)

106. C. Plain gut suture is usually not used in the presence of an infection because it is absorbed faster. (ST for ST 298)

107. B. The Bennett tibia retractor would be found in an orthopedic instrument tray. (ST for ST 909)

108. B. The dura mater is the outermost covering of the brain and spinal cord. (Anatomy 585)

109. D. Indirect, arterial blood pressure is obtained with a sphygmomanometer. (ST for ST 355)

110. A. Coronary artery bypass grafting (CABG) is the revascularization of myocardium that has become ischemic due to stenotic or occluded coronary vessels. The internal mammary artery is sutured to the affected coronary artery at a point distal to the stenosis. (ST for ST 1048-1049)

111. C. Hiatal hernia is the repair of herniation of the stomach through the diaphragm. (ST for ST 435)

112. B. Cranioplasty is the procedure performed to repair a cranial defect. (ST for ST 1157)

113. A. The anterior chamber is a cavity that contains the aqueous humor. (Anatomy 709)

114. B. Arteriovenous malformations (AVMs) may be a result of trauma or congenital defect. (ST for ST 1147)

115. D. The deltoid muscle is triangular in shape and abducts the arm and covers the shoulder. (Anatomy 357)

116. C. Oxidized cellulose is not recommended for use on bone, unless immediately removed after hemostasis is achieved because it can interfere with bone regeneration. (ST for ST 228-229)

117. D. Myelomeningocele is the congenital abnormality that is characterized by the presence of cerebrospinal fluid and spinal nerves in a dorsally protruding sac. (B&K 153)

118. B. Glaucoma is caused by the blockage of the canal of Schlemm by the iris thus preventing aqueous fluid to drain from the eye. (ST for ST 603)
119. A. Arthrodesis is a surgical procedure in which a joint is fused and movement is prevented. The suffix –desis means “surgical fixation of”. (ST for ST 1209)

120. D. A Satinsky aortic clamp is commonly used to clamp the aorta during an abdominal aneurysmectomy and is a non-crushing vascular clamp. (ST for ST 1002, 1117)

121. C. A De Lee bladder retractor is a large atraumatic retractor that is used to retract the bladder inferiorly away from the uterus during a cesarean section. (ST for ST 517, 527)

122. B. A cannulated screw is used as a fixation device for a femoral neck fracture. (Alex 750)

123. D. A trephine is a cutting instrument that is placed on the cornea and makes the incision around the cornea and into the anterior chamber. (ST for ST 619, 620)

124. C. The tunica adventitia, tunica intima and tunica media are all layers of an artery. (Anatomy 782)

125. A. Sperm are produced in the seminiferous tubules. (Physiology 929)

126. C. Fine hooks available in varying angles are essential dissecting instruments to perform a stapedectomy. (Alex 687)

127. B. The common bile duct carries bile from the liver and gallbladder to the duodenum. (Anatomy 803)

128. A. Stamey procedure is the endoscopic suspension of the vesical neck for stress incontinence. (ST for ST 741)

129. D. The ‘A’ in V-A shunt stands for atrial. The ventriculoatrial shunt is a multi-hole draining catheter that is placed in order to drain cerebral spinal fluid in the treatment of hydrocephalus. (ST for ST 1166)

130. C. Rhytidectomy is another term for a facelift. (ST for ST 756)

131. B. Cavitron ultrasonic aspirator (CUSA) is a device that emits a variable ultrasonic energy field that emulsifies abnormal tissue while saving normal neural tissue. (ST for ST 1141).

132. D. A three-layer dressing consists of an outer, intermediate and inner layer. The inner layer is non-adherent and its wicking action moves secretions away from the wound to be absorbed by the intermediate layer to reduce the chance of infection. The outer layer keeps the other layers in place. (ST for ST 283)
133. A. Bone wax is a sterile mixture of beeswax that is applied to the cut edges and surface of bone. The first scrub person will soften the bone wax by kneading it into small balls that are easy to apply to the bone. (ST for ST 228)

134. C. A function of the large intestine is the absorption of water and electrolytes. (Physiology 698)

135. B. Cholecystostomy is performed when cholecystectomy is contraindicated. A Malecot or Pezzer drain is inserted into the gallbladder to facilitate drainage. (Alex 377)

136. A. Glossectomy is excision of a portion of the tongue. (B&K 88)

137. B. After completion of the anastomosis, the instruments that came in contact with the bowel are placed in a separate basin away from the clean instruments that will be used for wound closure. This is part of the technique referred to as “bowel technique”. (ST for ST 451)

138. A. A lead apron should be worn during an extracorporeal shock wave lithotripsy (ESWL) due to it being two X-ray beams crossing at the point of the stone. (ST for ST 467)

139. C. Carpal tunnel syndrome is the result of compression on the median nerve and a carpal tunnel release is performed to relieve the compression by the transverse ligament. (ST for ST 1186)

140. D. Continuous irrigation of the bladder following a TURP is accomplished by inserting an indwelling 3-way 24 Fr. 30 cc Foley balloon catheter. The balloon also applies pressure on the operative site to help reduce hemorrhaging. (ST for ST 857, 861)

141. B. The duct of Wirsung is the main duct of the pancreas. (Anatomy 798)

142. A. The fundus, antrum, and the body are parts of the stomach. (Anatomy 794)

143. D. A fracture with more than two pieces of bone fragment is a comminuted fracture; often a significant amount of tissue trauma is associated with this type of fracture. (ST for ST 902, 903)

144. C. The mitral valve is located between the left atrium and left ventricle. (Anatomy 462)

145. D. The defect in an inguinal hernia occurs in the transversalis muscle and fascia. (ST for ST 425)

146. A. Van Buren is a type of dilator used in male urethral dilation. (B&K 742)
147. C. The full name is Sarot bronchus clamp; therefore, it is found in a cardiothoracic instrument set. (OR Instr. 268)

148. B. Cheiloschisis is a cleft lip and palatoschisis is a cleft palate. Cleft lip repair is performed to correct cheiloschisis. (ST for ST 758)

149. D. The Bookwalter has the most parts and when performing the instrument count all parts should be counted. (OR Instr 30-31)

150. A. Scleral buckling is the commonly performed procedure to treat a detached retina in which a buckle ("tire") is positioned to push on and close the retinal break. (ST for ST 610)

151. B. An Auvard is a type of weighted vaginal speculum in which the blade is placed within the vaginal vault to facilitate exposure of the organs during vaginal procedures. (ST for ST 515)

152. A. Benign prostatic hypertrophy (BPH) is a nonmalignant enlargement of the prostate and the preoperative diagnosis for a TURP. (ST for ST 857)

153. C. Neurolysis involves freeing a nerve from surrounding adhesions to provide the patient relief from pain and restore function. (B&K 778, 803)

154. D. An indwelling catheter line is inserted to measure radial and femoral artery pressure. (ST for ST 401)

155. B. The 45° angled Potts-Smith scissors is the instrument of choice to extend the arteriotomy such as during a carotid endarterectomy. (ST for ST 266, 267, 1111)

156. C. The split-thickness skin graft if placed on a plastic "carrier" and inserted into the mesh graft device that will expand the size of the skin graft. (ST for ST 735)

157. A. Orchiopexy is performed to treat testicular torsion and undescended testicle. (ST for ST 873)

158. C. A subtotal gastrectomy is called a Billroth I or II procedure. (ST for ST 440)

159. C. The lens and its capsule are removed in an intracapsular cataract extraction. (B&K 836)

160. D. Keller and McKeever are two types of surgical procedures that are used to treat bunions. The procedure that is performed depends on the degree of toe deformity. (ST for ST 994)

161. C. Surgical interruption of selected spinal nerve root between the ganglion and the cord is called a rhizotomy. (ST for ST 1184)
162. B. There are various types of cannulas that can be used during a tuboplasty procedure and the HUMI cannula is one type. (Alex 456)

163. A. Freer elevator, bayonet forceps and Cottle speculum are all on a nasal setup. (ST for ST 653)

164. D. Arteriovenous (A-V) fistula is preferred over an external arteriovenous shunt for long-term shunt dialysis since the external shunt carries a high risk of thrombosis and infection. (Alex 965)

165. C. Pain attributed to painful menstruation is called dysmenorrhea. Dys- is a prefix meaning “painful”; meno is a root word referring to the menses; and –rrhea is a suffix meaning “discharge, flow”. (Med Term 357)

166. B. Bankart procedure involves reattachment of the anterior capsule of the shoulder to the rim of the glenoid fossa with sutures. (B&K 920 – 924)

167. D. An abdominoperineal resection is performed for a lower sigmoid or rectal malignancy that requires an abdominal and rectal incision. It is performed when an anastomosis is not possible. The patient is placed in a low-lithotomy position. (B&K 681)

168. A. A hip spica cast is applied to provide complete immobilization of a fracture of the femoral shaft. (B&K 782)

169. D. Placenta previa is the term for the abnormal implantation of the placenta in the uterus and prevents delivery of the fetus; therefore, a cesarean section is performed. (Memmler’s 519)

170. C. A tonometer is used to measure the intraocular pressure in the physician’s office, preoperatively and intraoperatively. (Med. Term. 475)

171. B. When drainage is expected after a major orthopedic procedure a Hemovac is the most common closed-wound drainage system used. (ST for ST 287)

172. D. A patient is placed in the lithotomy position for a gynecologic laparoscopy in order to gain access to the vaginal opening in which to insert instruments in order to manipulate the cervix during the procedure. (ST for ST 544)

173. C. Pedicle screw fixation has been used most often in degenerative processes. (Alex 810)

174. A. Surgical correction of a deviated septum is a septoplasty. (ST for ST 655)
175. D. When a patient suffers from severe talipes valgus or varus, the procedure that is performed is a triple arthrodesis to relieve the pain, aid in correcting the stance and walking of the patient, and to immobilize the ankle. (ST for ST 988)