

ASSOCIATION OF SURGICAL TECHNOLOGISTS

SURGICAL TECHNOLOGIST CERTIFYING EXAM STUDY GUIDE, 3RD Ed.

PRACTICE EXAM #5: EXPLANATIONS WITH REFERENCES

Reference Key

Alex

Rothrock, J. C. (2011). *Alexander's care of the patient in surgery*. (14th ed.).

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Anatomy

Tortora, G., & Nielsen, M. T. (2009). *Principles of human anatomy* (11th ed.).

Hoboken, NJ: John Wiley & Sons

B&K

Phillips, N. (2013). *Berry & Kohn's operating room technique* (12th ed.). St. Louis:

Elsevier.

Med Term

Gylys, B. A., & Wedding, M. E. (2009). *Medical terminology systems: A body*

systems approach (6th ed.). Philadelphia: F.A. Davis.

Memmler's

Cohen, B. J., & Taylor, J. J. (2009). *Memmler's the human body in health and*

disease (11th ed.). Philadelphia: Lippincott Williams & Wilkins.

Micro

Price, P., & Frey, K. B. (2003). *Microbiology for surgical technologists*. Clifton

Park, NY: Delmar Learning.

OR Instr

Tighe, S. M. (2007). *Instrumentation for the operating room* (7th ed.). St. Louis:

Mosby.

Pharm

Snyder, K. C., & Keegan, C. (2006). *Pharmacology for the surgical technologist* (2nd ed.). St. Louis: Saunders.

Physiology

Rhoades, R., & Pflanzer, R. (2003). *Human physiology* (4th ed.). Pacific Grove, CA: Brooks/Cole.

ST for ST

Frey, K. B., & Ross, T. (Eds.). (2014). *Surgical technology for the surgical technologist: A positive care approach* (4th ed.). Clifton Park, NY: Delmar Cengage Learning.

- 1) A - Bleeding from the scalp can be profuse; Raney scalp system is used to control the hemorrhage during craniotomy procedures. (ST for ST 1140, 1151)
- 2) A - A cryotherapy unit uses liquid nitrogen, Freon, or carbon dioxide gas to provide extreme cold through a probe directed at the diseased tissue to destroy it without harming adjacent tissue. (ST for ST 277)
- 3) C - Aortic stenosis blocks the complete flow of blood from the left ventricle into the aorta causing left ventricle hypertrophy, hypertension, myocardial ischemia, angina and eventually heart failure. (ST for ST 1069)
- 4) B - When the parent(s) or legal guardian(s) cannot be located or contacted, the surgeon will inform two physicians who must agree the patient needs surgery and sign the surgical consent. (ST for ST 32-34)
- 5) A - EtO is an alkylating agent that destroys microbes by interfering with normal metabolism of protein and reproduction. (B&K 316)
- 6) C - Atherosclerosis is the most common cause of aortic aneurysm. (ST for ST 1044; 1114)
- 7) B - Three guide pins are placed in the femoral head and cannulated screws placed over each pin. (Alex 765)
- 8) B - The Heaney or Hegar uterine dilators are used to dilate the cervix during a D & C procedure. (ST for ST 516; 559-560)

- 9) D - Items to be placed in the EtO sterilizer must be completely clean, dry and free from lubricating oils; EtO gas cannot penetrate the lubricants. (ST for ST 167)
- 10) C - The last sense to be suppressed during general anesthesia is hearing. (ST for ST 231)
- 11) C - Arteriovenous fistula is the direct connection of an artery and vein to create vascular access for long-term hemodialysis. (Alex 996)
- 12) D - The recurrent laryngeal nerve must be identified and protected from injury during a thyroidectomy; injury to the nerve can result in temporary or permanent hoarseness or loss of voice. (ST for ST 503)
- 13) D - The radial nerve innervates the muscles on the back of the arm; if the forearm hangs over the side of the bed, it could be compressed against the humerus. (Alex 154)
- 14) D - To decrease the testosterone level in the presence of prostate cancer an orchiectomy procedure is performed. (Memmler's 488, 492)
- 15) B - The Harrington "Heart" retractor is a large retractor with smooth edges making it ideal to abdominal organs. (ST for ST for ST 413)
- 16) B - Yellow broth indicates the microbes weren't killed during the sterilization cycle and the items from the load are not sterile; the items must be immediately recalled and reprocessed. (ST for ST 166)
- 17) B - 2.54 centimeters is equal to 1 inch; therefore, 5 centimeters is about 2 inches (1.97 to be exact). (Pharm 81)
- 18) D - The pulmonary artery arises from the right ventricle. (Anatomy 462)
- 19) D - The Lambotte osteotome is available in varying widths and has a sharp end making it ideal for cutting bone. (ST for ST 910)
- 20) A - The donor site is prepped first and is "clean"; the recipient site is prepped last and is considered "dirty" if it is an open wound or potentially contains cancer cells. (ST for ST 734)
- 21) C - Bullets must be carefully handled. Do not use forceps or clamps because it could cause damage to ballistic markings. (ST for ST 407)
- 22) A - Because the endoscope is inserted through the mouth into the bronchial tubes, a bronchoscopy is considered a clean procedure. (ST for ST 1009-1013)
- 23) A - The broad, uterosacral, cardinal and round ligaments maintain the position of the uterus. (Anatomy 861, 869)

- 24) D - The nerve stimulator produces small electric currents that are applied to tissue and aid in identifying essential nerves. (ST for ST 277)
- 25) D - One option for the cold dissection of the tonsils is the use of the #12 knife blade. (Alex 1126)
- 26) C - The temperature must reach 250° F when using a gravity displacement sterilizer. (ST for ST 161, 164)
- 27) B - Traction sutures are used to retract a structure that cannot be retraced with a hand-held or self-retaining retractor. (ST for ST 314)
- 28) A - When a patient is placed in the supine position, the ankles and legs should not be crossed to avoid impairment of circulation and damage to the peroneal nerve. (ST for ST 361, 362, 363)
- 29) A - Lymphatic system aids in the metastatic spread of cancer cells. (Memmler's 357)
- 30) B - Ventilation or pressure equalizing (PE) tube is inserted into the incision to facilitate pressure equalization. (ST for ST 635)
- 31) B - Lysosomes contain the enzyme lysozyme that destroys foreign substances ingested by the cell. (Physiology 71)
- 32) A - Tetany is characterized by severe cramps, convulsions and twitching of the muscles, and extreme flexion of the joints caused by a low level of calcium. (ST for ST 499, 500)
- 33) C - The Allison lung retractor is a non-traumatic retractor that is used specifically for the lung. (ST for ST 1002)
- 34) B - The Krause nasal snare is loaded with a flexible wire that is placed around the nasal polyp and the snare is tightened around the polyp to dissect free. (ST for ST 659-660)
- 35) B - Cervical cerclage, also called Shirodkar's procedure, involves placing a large diameter Dacron or Mersilene tap around the cervix at the level of the internal os. (ST for ST 523-524)
- 36) D - The suffix -ectomy means excision. (Med Term 541)
- 37) B - Craniosynostosis is a condition in which infant suture lines prematurely close. (ST for ST 1158)
- 38) A - The anterior chamber is a cavity of the eyeball that lies behind the cornea and in front of the iris. (Anatomy 709)
- 39) D - If cancer is suspected or known the cell saver machine will not be used since it cannot wash or remove cancers cells from the blood. (ST for ST 181)

- 40) A - Certain agents may trigger malignant hyperthermia including succinylcholine. (Alex 112)
- 41) D - Myring/o is a combining form meaning tympanic membrane; therefore, myringotomy is an incision into the tympanic membrane. (ST for ST 634)
- 42) D - When placing a patient in the prone position a safety belt placed below the knees is not a requirement. (ST for ST 366, 367, 368)
- 43) D - The tissue designated for a frozen section must be kept dry; solutions such as Formalin, water or saline will alter the freezing process. (ST for ST 406)
- 44) C - The body's first line of defense against infection is skin that has no cuts, scraps, etc. (B&K 250)
- 45) B - The EEA is a type of intraluminal stapler that is used during resection and reanastomosis of the distal colon or rectum. (ST for ST 319)
- 46) A - Packing material is used to provide hemostasis, support the wound and eliminate dead space. It is used for rectal, nasal and vaginal procedures. (ST for ST 284-285)
- 47) B - The pleura membrane lines the thoracic cavity. (Anatomy 85)
- 48) D - The knife blade should never be removed using the fingers; a heavy hemostat such as a Kelly or needle holder should be used to remove the blade and thrown into the sharps container. (B&K 330)
- 49) A - Parenteral refers to the ways in which drugs are administered with a needle. (Pharm 22)
- 50) D - The fibrous covering that covers bone and provides some degree of protection is the periosteum. (Anatomy 142)
- 51) C - Normally a pressure dressing is applied for a laparotomy procedure to provide wound support, eliminate dead space and reduce edema. (ST for ST 283-284)
- 52) B - Heparin is usually administered subcutaneously 30 minutes before the procedure begins to aid in preventing DVT. (ST for ST 216)
- 53) A - The thymus is located in the mediastinum between the sternum and aorta. (Anatomy 546)
- 54) C - The femoral rasps are graduated in size from small to large; the surgeon uses a back-and-forth motion to remove cancellous bone and enlarge the canal. (ST for ST 949)
- 55) B - Lymph nodes, tonsils and spleen are all part of the immune system and help the body fight infection. (Anatomy 543)

- 56) C - Approach for a pediatric aortic coarctation repair is made through the left posterolateral thoracotomy into the third or fourth intercostal space. (ST for ST 1083)
- 57) C - If blood loss for a particular procedure is anticipated, the patient's blood will be preoperatively typed-and-cross-matched. (ST for ST 180-181)
- 58) D - Turning the patient from the supine to kidney position, the patient is positioned so that the lower iliac crest is just below the lumbar break. The kidney elevator is raised to increase the space between the lower rib and iliac crest. (Alex 156)
- 59) C - Frequently saving a document is important so the information is not lost in case the computer malfunctions or there is a power outage. (ST for ST 105)
- 60) C - The outside of the disposable suction container should be wiped down and placed in a bag with the biohazard symbol for disposal. (ST for ST 146)
- 61) D - Buttocks extending past the table break can cause lumbosacral strain in the lithotomy position. (B&K 505-506)
- 62) A - The incision for a AAA is xiphoid to pubis in order to gain as much exposure of the artery as possible including bifurcation. (ST for ST 1116)
- 63) C - Loupes are a type of magnifying lenses worn by a surgeon during delicate procedures such as plastic surgery and neurosurgery. (ST for ST 533)
- 64) A - It is recommended a BI be included with every EtO sterilization load. (ST for ST 168)
- 65) C - Peracetic acid is a strong sterilant that is used with the Steris machine and has a total cycle time of approximately 30 minutes. (ST for ST 169)
- 66) B - As soon as the peritoneum or other type of body cavity (i.e., uterus) starts to be closed, the surgical technologist should initiate the first closing count with the circulator; the count should be completed prior to the cavity being completely closed. (ST for ST 346)
- 67) B - Chlorhexidine is contraindicated using for facial preparation. (B&K 515)
- 68) A - Meperidine (Demerol®) is a short-acting opioid narcotic given intramuscularly for premedication. (Pharm 288)
- 69) C - The quadriceps femoris, largest muscle in the body, consists of four separate muscles: rectus femoris, vastus lateralis, vastus medialis, and vastus intermedius. (Anatomy 395)
- 70) B - A Harrington retractor would not be used during a prostatectomy due to its large size. (ST for ST 811, 864)
- 71) B - "-scopy" (o/scopy) is the suffix that means viewing. (Med Term 546)

72) D - Since the Frazier suction tip has a lumen a residual of distilled water should be left inside the lumen and immediate-use sterilized (flash sterilized) for 10 minutes. (ST for ST 158)

73) D - Diabetic patients often have poor circulation of the lower extremities and are prone to thromboembolism; therefore, the antiembolic stockings are worn by the patient. (ST for ST 61-62 ; B&K 380)

74) C - Induced hypothermia is the deliberate lowering of the body's core temperature and is an adjunctive therapy for using during open-heart surgery. (ST for ST 241)

75) B - Intrathecal (spinal) block is a method of anesthesia in which medication is injected into the subarachnoid space affecting a portion of the spinal cord. (Pharm 308)

76) C - If a patient has latex allergies, a Silastic urethral catheter may be required. (ST for ST 359)

77) C - Nail polish changes the color of the pulse oximeter light beam causing malfunction. (ST for ST 325)

78) D - The strainer is located at the bottom front of the autoclave chamber; it should be cleaned daily. (ST for ST 162)

79) D - Viruses are a non-living particle that completely rely on the host cell for survival. (ST for ST 133)

80) B - Otorhinolaryngologists are commonly called ear, nose and throat surgeons, and might assist by providing the operative exposure for the neurosurgeon in a transsphenoidal approach to the sella turcica. (B&K 872)

81) B - When using a laser, surgical plume is produced that has been shown through research to contain mutagenic and carcinogenic particles; the surgical team should wear the proper PPE. (ST for ST 93-94)

82) B - An EPA-registered detergent-disinfection solution is recommended for use in cleaning the O.R. floor during turnover in preparation for the next procedure. (B&K 211-212)

83) A - The Ellik evacuator is used intermittently by the surgeon to remove resected prostatic tissue during a TURP; a Toomey syringe can be used for the same purpose. (ST for ST 858, 859)

84) D - The presence of food or fluids in the stomach predisposes the patient to vomiting due to all the drugs and anesthesia, which can cause pneumonia and death. (ST for ST 325-326)

85) A - Iron is an essential ingredient of hemoglobin, the oxygen-carrying protein in blood. (Physiology 532)

86) D - Heaney hysterectomy and Heaney-Ballantine hysterectomy clamps, collectively referred to as ligament clamps, are heavy tissue clamps that are excellent for placing across the uterine ligaments during dissection. (ST for ST 519, 568)

87) A - A trochanter is a large, bony process found on the femur. (Anatomy 237)

88) A - The initial incision is a long midline incision that may be extended to a thoracoabdominal incision. (B&K 668-669)

89) A - Before the surgeon is handed the knife handle to make the skin incision the operative team should conduct a "time-out" to confirm correct patient, correct surgery site, and correct procedure. (Alex 31)

90) C - The pulse rate of pregnant patients increases to compensate for the increase in circulatory volume that is necessary to support the fetus. (ST for ST 62)

91) D - The fundus is the portion of the stomach located above the level of the upper esophageal sphincter. (Anatomy 794)

92) C - A linen pack that is assembled within the health-care facility must not weigh more than 12 pounds. (ST for ST 157)

93) C - The recommended sequence for performing the closing count is operative field, Mayo stand, back table, basin, off the sterile field. (ST for ST 387)

94) A - Procedures that involve the oral cavity and neck predispose the patient to complications such as hemorrhage and airway difficulties, and an emergency tracheostomy may have to be performed. (ST for ST 389)

95) B - When using a felt-tip marker to label the peel pack, write only on the plastic side; ink can leak through the paper causing the items to be unsterile. (ST for ST 156)

96) B - The cystic artery and then cystic duct are double clamped, double ligated and divided. (ST for ST 470)

97) C - The surgical technologist's primary role during a cardiac arrest in the O.R. is to protect the sterile field; however, he/she may be called upon to provide chest compressions or provide artificial respiration. (ST for ST 184)

98) B - Removal of the lung is a pneumonectomy. (Med Term 168)

99) D - The steam BI must be incubated for 24 hours before the reading can be recorded. (ST for ST 166)

100) A - Prion is a protein substance that is responsible for causing transmissible spongiform encephalopathy. (ST for ST 134-135)

101) B - The two lobes of the thyroid gland are joined by the isthmus that lies just above the second tracheal ring. (ST for ST 501)

102) D - A tetanus is a sustained contraction of a muscle produced by several rapid stimuli. (Physiology 503-504)

103) C - Tachycardia refers to a rapid heart and/or pulse rate. (Med Term 198)

104) A - Hemorrhage, embolism and acute epididymitis are all postoperative complications of a suprapubic prostatectomy. (ST for ST 867)

105) C - The surgical consent must be signed prior to the patient receiving any medications/drugs that could alter the patient's mental alertness causing the inability to fully understand the surgeon's explanations and what he/she is signing. (ST for ST 31-34)

106) C - The optimal sequence is remove items from drapes and remove drapes; move Mayo stand and back table away from O.R. table and preserve sterility until patient leaves O.R.; remove the gown and gloves; don non-sterile exam gloves and break down the back table and Mayo stand. (ST for ST 389-393)

107) D - Reverse cutting needles are used for closing the skin because the needle has a flat edge in the direction of pull which decreases the damage to the skin. (ST for ST 308)

108) D - The Doppler is an ultrasonic device used to assess the flow of blood through arteries and veins; a sterile probe can be used within the sterile field. (ST for ST 249)

109) D - The name Key periosteal elevator provides how the instrument is used; during open procedures the Key is used to dissect or "elevate" the periosteum from the bone. (Alex 747)

110) B - The medulla oblongata is responsible for controlling respirations. (Anatomy 622)

111) D - The three factors used to determine the inflation pressure of a tourniquet are patient's age, circumference of the extremity, and systolic blood pressure. (Alex 735)

112) D - The intraoperative phase is during the time the surgical procedure is being performed starting with the skin incision and ending with the placement of the sterile dressings. (ST for ST 322)

113) D - After the drapes are removed and patient transported out of the O.R., the surgical technologist removes the gown and then gloves. (ST for ST 389, 391)

114) C - The Green retractor is often used during thyroidectomy and other procedures where gentle retraction of friable tissue is needed. (ST for ST 413, 501)

115) D - The operative stage of general anesthesia is the third stage. (ST for ST 232)

- 116) A - The surgical scrub is performed to remove as many microbes as possible and render the hands and arms surgically clean. (ST for ST 333-334)
- 117) A - Pregnancy can trigger disseminated intravascular coagulation (DIC), a pathology where the normal clotting mechanisms fail. (ST for ST 184-185)
- 118) A - Symbiosis is a constant relationship between two or more unlike species of organisms. (ST for ST 128)
- 119) B - During room turnover, spot clean the wall(s) that were splashed with blood or debris. (B&K 212)
- 120) B - The femoral head and neck are resected and replaced by the femoral component. (ST for ST 947-950)
- 121) A - The mouse is used to move the cursor to different areas on the screen or within a document. (ST for ST 103)
- 122) A - The circulator should not open and dispense the sterile dressings until the final closing count is completed and verified as being correct. (ST for ST 391)
- 123) C - One of the complications of any type of colon resection (i.e., left hemicolectomy, transverse hemicolectomy, abdominoperineal resection) includes ureteral injury. To help to prevent the injury, a ureteral stent may be inserted to identify the ureter. (ST for ST 456)
- 124) D - Succinylcholine chloride (Anectine®) is a rapid-onset muscle relaxant used for intubation in short cases. (ST for ST 236)
- 125) C - The general consent is for treatment defined in the broadest terms including general medical treatment and diagnostic procedures. (ST for ST 32)
- 126) D - The last three steps for removal of the uterus entail cutting the uterosacral ligaments, cut the uterus with the knife in preparation for removal, and final cut with the Jorgenson scissors to remove the uterus. (ST for ST 570)
- 127) C - A preoperative enema must be performed to eliminate the barium because it predisposes the patient to postoperative fecal impaction. (ST for ST 325)
- 128) C - Silk sutures are not used in the presence of infection. (ST for ST 302)
- 129) B - Instruments should be placed in a basin and covered with sterile water, enzymatic or detergent solution and unratcheted for transport to the decontamination room. (ST for ST 148-149)
- 130) D - The cup-like extensions of the kidney pelvis that collect urine are calyces. (Anatomy 825)

- 131) A - Steri-strips are a type of one-layer dressing that are used to maintain approximation of the wound edges; they may be used alone or as part of another dressing. (ST for ST 283)
- 132) B - Multiple-strand or braided suture has the characteristic called capillarity which is conducive to harboring bacteria that can travel the length of the suture; therefore, multiple-strand suture should not be used in the presence of infection. (ST for ST 296)
- 133) D - A patient placed in the supine position must be protected from foot drop; if the feet extend beyond the end of the O.R. table they must be supported to prevent a stretch injury. (ST for ST 362, 363)
- 134) A - Airway complications are the most common concern when a pediatric patient is emerging from anesthesia and during the postoperative period. (B&K 139)
- 135) C - Kerat/o is a combining form meaning cornea; therefore, keratoplasty refers to a corneal transplant. (ST for ST 618)
- 136) D - Fertilization of an ovum usually takes place in the fallopian tubes. (Anatomy 866-869)
- 137) B - The Kocher clamp is easily distinguished by the single tooth on the end making it a good instrument for grasping heavy tissue. (ST for ST 414)
- 138) C - The inner layer of an artery is called the intima or tunica intima. (Anatomy 482)
- 139) A - Carbon dioxide energy is absorbed by the cellular water content; therefore, the absorption does not depend on tissue color or consistency. (ST for ST 115)
- 140) C - A cochlear implant is a prosthetic replacement of the cochlea located in the inner ear; it is implanted in individuals suffering from sensorineural deafness. (ST for ST 647)
- 141) A - The spleen functions as part of the immune system and its removal can impair the immunologic response. (ST for ST 490)
- 142) A - The absorption rate of plain surgical gut and chromic gut increases when an infection is present. (Alex 177)
- 143) C - Hypoxia is a deficiency in oxygen, which is indicated by dark blood. (Physiology 662-663)
- 144) C - The periorbital fat and other entrapped tissue is released with the use of the Freer elevator or scissors and tissue forceps. (ST for ST 718)
- 145) B - Healthcare-associated infections (HAI) are associated with urinary tract infections following cystoscopy. (B&K 256)

- 146) B - The meniscus can sustain various type of tears, but a common type is the bucket handle characterized by an incomplete longitudinal tear. (ST for ST 897)
- 147) C - A suprapubic catheter is placed into the bladder through an opening in the abdominal wall and may be required after a prostatectomy. (ST for ST 865)
- 148) D - *Treponema pallidum* is associated with syphilis. (ST for ST 132)
- 149) D - Antiseptics are solutions used by surgical team members to perform the surgical scrub as well as used on the patient for skin preparation. (ST for ST 140)
- 150) B - The Jackson-Pratt is a type of active drain that consists of a drainage tube and evacuator that is shaped like a bulb often called the "grenade". (ST for ST 287)
- 151) D - Event-related sterility means that the sterility of an item is determined by how it is handled and that contamination is event related, not time related. (ST for ST 141)
- 152) D - The two vessels commonly harvested for use during a CABG is the internal mammary artery or saphenous vein. (ST for ST 1048-1049)
- 153) D - The EtO BI can be read after 24 hours; however, it must be incubated for 48 hours. (ST for ST 168)
- 154) C - The placenta provides an exchange of nutrients and wastes between the fetus and mother and secretes the hormones necessary to maintain the pregnancy. (Anatomy 105)
- 155) B - A new mop-head should be used each time an O.R. is being turned-over for the next procedure. (B&K 212)
- 156) D - Vitrectomy is a microsurgical procedure in which the vitreous gel is removed; it is the initial step to repair retinal disorders. (ST for ST 624)
- 157) D - The recommended aeration at 140° F is for a minimum of 8 hours. (B&K 318 , 319-320)
- 158) B - The BI test should be placed at the bottom front of the sterilizer cart since that is the coldest point of the autoclave chamber. (ST for ST 166)
- 159) A - The right atrium receives blood from three veins: coronary sinus, superior vena cava, inferior vena cava. (Anatomy 460)
- 160) A - The surgical technologist should practice sharps safety and always load the knife blade onto the handle typically using a needle holder. (ST for ST 266)
- 161) C - Vitamin K is essential for the clotting process. (B&K 629)

162) D - Most common sites of cerebral aneurysm arise in the Circle of Willis. (ST for ST 1154)

163) D - The upper portion of the C-arm is positioned over the sterile drapes covering the patient; therefore, the surgical technologist should cover the upper arm with a specialized sterile C-arm drape. (B&K 525, 525)

164) C - Collagen fibers consist of the protein collagen which has the highest percentage in the body. (Anatomy 74)

165) D - The normal intraoperative range of pressure for laparoscopy is 12 - 15 mm Hg. (ST for ST 548)

166) D - The EtO BI should be placed in the center of the load on its side since that is the location most difficult for the gas to reach. (ST for ST 168)

167) A - To avoid injury to the muscles and nerves of the lumbar region of the back and hypotension when moving a patient out of the lithotomy position, the legs must be lowered together slowly to the O.R. table. (ST for ST 366)

168) B - Cystoceles and rectoceles are prolapses of the bladder and rectum into the vaginal vault. The anterior repair is for the cystocele and posterior repair for the rectocele. (ST for ST 587)

169) C - The hepatic portal vein drains blood from the pancreas, spleen, stomach, intestines and gallbladder. (Physiology 713-714)

170) B - The Bankart shoulder retractors were specifically developed for use during shoulder procedures. (OR Instr 141; ST for ST 883)

171) C - The hilum, also called the renal hilum, is a notch near the center of the concave border of the kidney through which the ureter leaves. (Anatomy 825)

172) B - The popliteal artery is located behind the knee joint. (Anatomy 509)

173) D - Urine flowing out of a Foley catheter confirms proper placement prior to balloon inflation. (ST for ST 360)

174) C - The ileum is the portion of the small intestine that joins the large intestine. (Anatomy 806)

175) B - Most large power instruments such as saws and drills use either electricity (rechargeable power batteries) or nitrogen. (ST for ST 275)