

AST Recommended

CLINICAL LADDER

for the
Surgical
Technologist



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A Win-Win Situation of Implementing a Clinical Ladder

Hospital employers of surgical technologists are finding it increasingly difficult to recruit and retain experienced surgical technologists. Competition for the services of surgical technologists includes medical sales companies, travel companies, and better paying opportunities in other allied health fields. Operating room managers are finding that clinical ladder programs can help in lowering attrition rates, foster employee commitment to the institution, improve patient care, and promote job satisfaction in conjunction with the individual attaining a higher level of professionalism.

A clinical ladder serves as an incentive for surgical technologists (ST) to continually improve their knowledge, skills, and competency. It allows STs to become involved with decision-making activities and encourages holistic thinking, broadening their view of being an integral part of the process of surgical patient care. Once involved, the STs experience greater pride and satisfaction in their work. It also gives new staff a clear picture of how to advance in the organization. The result is a highly skilled and knowledgeable ST with diverse skills, both surgical and non-surgical.

The surgery department and hospital benefit in a number of ways. Hospital departments are constantly asked to take on additional duties with the same amount of staff. Clinical ladders help the ST develop multiple skills. Since precepting, orienting new staff, and providing inservice education is usually included as part of the criteria for reaching the top rung of the ladder, the department and hospital ben-

efit from a wider pool of qualified STs to fulfill these tasks.

Clinical ladder programs help foster positive interdepartmental relations by giving the STs increased visibility in the hospital. They are seen as a key member of the hospital team that can serve as an important source of patient care information.

A clinical ladder provides managers with an effective tool for measuring the ongoing progress of STs from one level to another. In doing so, they are not only recognizing and rewarding job excellence, but helping to recruit and retain STs. Recognition has been targeted as a key factor in retention. Clinical ladders present a long-term strategy to decrease attrition, increase the skill levels of the ST, and enhance department morale. The hospital and department benefits from highly skilled professionals who work hard to improve surgical patient care to meet the goals of the institution.

Goals of the Clinical Ladder for the Surgical Technologist

- To enhance quality surgical patient care.
- To encourage employer recognition and rewarding of advanced competency.
- To promote the accountability and responsibility of the surgical technologist toward the patient.
- To encourage the professional growth of the surgical technologist.
- To encourage experienced STs to contribute toward the professional growth of the other members of the surgical team.
- To increase the visibility of the role of the ST in the hospital and other institutions.

Clinical Ladder Program

Level I: Entry Level Practitioner. Level I is a practitioner who has recently graduated from a CAAHEP-accredited program and has been employed for one year or less. During the surgical rotation portion of the program, the graduate will have completed a minimum of 125 surgical procedures in the role of first scrub. An emphasis will have been placed upon the student completing basic, intermediate and advanced procedures in the following surgical specialties: general surgery, orthopedic surgery, ob/gyn surgery, genitourinary surgery, and otorhinolaryngology (ENT).

1. Graduate of a CAAHEP-accredited surgical technology program.
2. Independently first scrubs basic surgical procedures in the five surgical specialties listed above. See Appendix I for list of suggested procedures and basic case preparation.
3. Demonstrates ability to problem solve in relation to the procedure being performed.
4. Applies base knowledge of anatomy and physiology, medical terminology, microbiology, and pharmacology for optimal surgical patient care. See Appendix I.
5. Applies basic knowledge of physics, electricity, chemistry, and robotics. See Appendix I.
6. Demonstrates knowledge and practice of patient care concepts. See Appendix I.
7. Applies the principles of sterile technique during surgical procedures. See Appendix I.
8. Participates in orientation and training program to attain competency in com-

plex cases and achieve Level II: Proficient Practitioner.

9. Becomes certified within one year of graduation.
10. Maintains certification by participating in continuing education activities.

Level II: Proficient Practitioner. Level II is a certified surgical technologist who has been employed for one year or more and takes on greater responsibility in providing patient care. Level II practitioners demonstrate higher level critical thinking and problem solving skills.

1. Meets the criteria stated in Level I.
2. Demonstrates advanced knowledge and proficient practice in the first scrub role in majority of surgical procedures. See Appendix II.
3. Applies knowledge of advanced surgical techniques.
4. Applies knowledge related to emergency situations and surgical procedures in the operating room. See Appendix II.
5. Demonstrates critical thinking skills in relation to anticipating the perioperative needs of the patient and surgeon.
6. Exhibits a higher level of collaboration with peers in making decisions related to surgical patient care.
7. Assists in performing circulating skills and tasks. See Appendix II.
8. Participates in program to achieve Level III: Expert Practitioner.

Level III: Expert Practitioner. Level III is an advanced practitioner who thinks on a more global level and is more involved in endeavors

related to, but outside of, the surgery department.

1. Meets the criteria stated in Level II.
2. Demonstrates superior knowledge of the various surgical equipment and advanced surgical instrumentation.
3. Demonstrates superior knowledge and expert practice in the first scrub role in advanced surgical procedures. See Appendix III.
4. Performs the preceptor role in the training of students.
5. Demonstrates leadership abilities.
6. Serves as a mentor and role model.
7. Belongs to at least one department or hospital committee.
8. Involved with community health promotional efforts and other related community services.
9. Demonstrates knowledge of department fiscal requirements.
10. Participates in decision-making activities related to evaluating and acquiring surgical equipment, instruments, and supplies.
11. Collaborates with other health care professionals in the development of surgical budgetary requirements.
12. Demonstrates skills in organizing and coordinating the effective use of personnel and materials.
13. Develops, organizes, and delivers continuing education topics and/or courses.

A P P E N D I X I

LEVEL I: ENTRY-LEVEL PRACTITIONER

Section I: Surgical Procedures

- I. General Surgery
 - A. Hernia Repair
 1. inguinal
 2. umbilical
 3. strangulated/incarcerated
 - B. Breast Procedures
 1. biopsy
 2. lumpectomy
 3. modified radical mastectomy
 - C. Venous Ligation and Stripping (vein stripping)
 - D. Exploratory Laparotomy
 - E. Esophageal Dilatation
 - F. Gastric Procedures
 1. gastrostomy
 2. vagotomy
 - G. Small Intestine Procedures
 1. resection
 - H. Colon Procedures
 1. appendectomy
 2. colectomy with or without colostomy
 - I. Anorectal Procedures
 1. hemorrhoidectomy
 2. pilonidal cystectomy
 3. fissure repair
 4. sphincterotomy
 5. polypectomy
 6. anoplasty
 - J. Biliary Tract Procedures
 1. cholecystectomy with/without cholangiogram and common bile duct exploration
 2. liver biopsy

- 3. repair of liver laceration
- K. Pancreatic and Splenic Procedures
 - 1. pancreatic cyst/pseudocyst excision
 - 2. splenectomy
- L. Endoscopic Procedures
 - 1. choledochoscopy
 - 2. colonoscopy
 - 3. esophagogastroduodenoscopy (EGD)
 - 4. gastroscopy
 - 5. sigmoidoscopy
- M. Laparoscopic Procedures
 - 1. appendectomy
 - 2. cholecystectomy with/without cholangiography, common bile duct exploration
 - 3. inguinal hernia repair
 - 4. colectomy
- N. Head and Neck Surgery
 - 1. parotidectomy
 - 2. thyroidectomy
 - 3. parathyroidectomy
 - 4. tracheotomy/tracheostomy
- II. Obstetric and Gynecologic Surgery
 - A. Vaginal and Vulvar Procedures
 - 1. dilatation and curettage (D and C)
 - 2. Bartholin's cystectomy
 - 3. cervical conization
 - 4. vaginal hysterectomy with/without anterior and posterior repair (A and P)
 - 5. fistula repair
 - 6. vulvectomy
 - B. Abdominal Procedures
 - 1. tubal ligation
 - 2. oophorectomy
 - 3. salpingectomy
 - 4. abdominal hysterectomy

- 5. myomectomy
- C. Obstetric Procedures
 - 1. ectopic pregnancy
 - 2. cervical cerclage
 - 3. caesarean section (C-section)
- D. Endoscopic Procedures
 - 1. colposcopy
 - 2. hysteroscopy
 - 3. laparoscopy: diagnostic and tubal ligation

III. Orthopedic Surgery

- A. Fracture Management
 - 1. casting techniques
 - 2. splinting
 - 3. traction
 - 4. external fixation devices
- B. Open Reduction, Internal Fixation (ORIF)
 - 1. plate and screws fixation
 - 2. compression plating
- C. Shoulder Procedures
 - 1. arthroscopy
 - 2. acromioplasty
 - 3. rotator cuff repair
- D. Upper Limb Procedures
 - 1. humeral, olecranon, radial/ulnar fractures
 - 2. elbow arthroscopy
 - 3. ulnar nerve transposition
- E. Hip Procedures
 - 1. total hip arthroplasty
 - 2. femoral head arthroplasty
- F. Lower Limb Procedures
 - 1. tibial/fibula fracture repair
- G. Knee Procedures
 - 1. arthroscopy with/without meniscectomy or meniscal repair

2. arthroscopic anterior cruciate ligament (ACL) repair
 3. patellar repairs
 4. total knee arthroplasty
- H. Ankle and Foot Procedures
1. ankle arthroscopy
 2. triple arthrodesis
 3. malleolar fracture repair
 4. metatarsal/phalangeal fracture repair or arthroplasty
 5. bunionectomy
- I. Miscellaneous Procedures
1. amputations
 2. bone biopsy
 3. tendon procedures
- J. Hand Surgery
1. carpal tunnel release: open or endoscopic
 2. ganglion excision
 3. palmar fasciectomy
 4. release trigger finger
 5. syndactyly release
- IV. Genitourinary
- A. Kidney, Ureteral, Bladder, Urethral Procedures
1. nephroscopy
 2. ureteroscopy
 3. cystoscopy
 4. bladder suspension
 5. urethral dilatation
 6. urethral meatotomy/meatoplasty
- B. Male Reproductive System Procedures
1. circumcision
 2. chordee release
 3. orchiopexy
 4. hydrocelectomy
 5. varicocelectomy
 6. vasectomy

7. testicular torsion and fixation
8. testicular biopsy
9. orchiectomy
10. transurethral resection of the prostate (TURP)

V. Otorhinolaryngology (Ear, Nose, and Throat Procedures)

A. Ear Procedures

1. myringotomy

B. Nasal Procedures

1. septoplasty
2. rhinoplasty
3. polypectomy

C. Throat Procedures

1. tonsillectomy and adenoidectomy (T and A)
2. laryngoscopy
3. bronchoscopy
4. esophagoscopy

Section II: Basic Science Courses

I. Anatomy and Physiology

A. Performance Objectives

1. define anatomical and physiological terminology.
2. identify and describe body planes and organization.
3. describe cellular structure and functions.
4. identify the various types of body tissue.
5. list and describe the structure and functions of the various body organs.
6. describe the regulatory functions of the body organs.

II. Microbiology and Wound Healing

A. Performance Objectives

1. describe the structure and characteristics of different microbes.
2. describe the diseases caused by microbes.
3. define the terms and describe the process of infection.
4. define the terms and describe the immune system functions.
5. identify and describe the methods of disinfection and sterilization.
6. define the terms related to wound healing.
7. describe the characteristics of tissue inflammation and types of healing.
8. describe the phases of wound healing.
9. explain the classifications of surgical wounds.

III. Medical Terminology

A. Performance Objectives

1. properly pronounce and spell medical terms.
2. identify and define the various word parts.
3. recognize and state the meaning of medical symbols and abbreviations.
4. define medical terms as related to each body system.

IV. Pharmacology and Anesthesia

A. Performance Objectives

1. perform basic math calculations.
2. calculate dosages of solids and liquids.

3. demonstrate ability to convert units of one mathematical system to another.
4. define abbreviations and terminology associated with pharmacology.
5. demonstrate the proper procedures for the care and handling of drugs and solutions.
6. identify and describe the various drugs used in the care of the surgical patient.
7. explain the principles of anesthesia administration to include local, regional, and general anesthesia.

V. Electricity, Physics, and Chemistry

A. Performance Objectives

1. demonstrate an understanding of the basic principles of physics
2. perform basic problems in physics
3. demonstrate an understanding of the basic principles of electricity
4. perform basic problems in electricity
5. demonstrate an understanding of the basic principles of chemistry
6. perform basic problems in chemistry
7. knowledge of robotic care, handling, and operation

Section III: Surgical Technology Courses

I. Patient Care Concepts

- A. Surgical technologist should be able to perform the skills in the following topics.
 1. patient's response to illness and hospitalization.

2. physical, spiritual, and psychological patient needs.
 3. patient Bill of Rights.
 4. consent for surgery.
 5. preoperative routines.
 6. identification of the patient before transporting to surgery.
 7. transportation of the surgical patient.
 8. surgical positions.
 9. skin preparation.
 10. care and handling of surgical specimens.
 11. thermoregulatory devices.
 12. vital signs.
 13. hemostasis and blood replacement processes.
 14. urinary catheterization.
- II. Sterile Technique
- A. Surgical technologist should be able to perform the skills in the following topics.
 1. sterile technique
 - (a) define terminology
 - (b) apply concepts in the operating room
 2. disinfection and sterilization procedures
- III. Basic Case Preparation and Procedures
- A. Surgical technologist should be able to perform the basic skills in the following topics.
 1. knowledge of basic surgical instrumentation as related to the five surgical specialties.
 2. knowledge and use of the basic specialty and accessory surgical equipment.

3. knowledge of the various types of sutures and needles including application of basic concepts related to choice for the surgical procedure to be performed.
4. basic draping procedures.
5. creation and maintenance of the sterile field according to the basic surgical specialties.

IV. Robotics

A. Performance Objectives

1. basic knowledge of the use of robotics in the operating room.
2. knowledge of how to operate robotic systems.
3. knowledge of the equipment including cleaning, disinfecting, assembly, and trouble-shooting.
4. knowledge of the robotic surgical instrumentation.

A P P E N D I X I I

LEVEL II: PROFICIENT PRACTITIONER

Section I: Advanced Surgical Procedures

- I. General Surgery
 - A. Hernia Repair
 1. femoral
 2. ventral
 3. hiatal (Nissen fundoplication)
 - B. Esophageal Procedures
 1. esophagectomy
 - C. Gastric Procedures
 1. partial or total gastrectomy
 2. pyloroplasty
 3. gastroplasty
 4. gastroduodenostomy

- 5. gastrojejunostomy
- D. Small Intestine Procedures
 - 1. Roux-en-Y
 - 2. ileostomy
- E. Colon Procedures
 - 1. sigmoid resection with rectal anastomosis
 - 2. abdominoperineal resection (APR)
- F. Biliary Tract Procedures
 - 1. choledochojejunostomy
 - 2. liver resection
- G. Pancreatic and Splenic Procedures
 - 1. Whipple's procedure
- H. Laparoscopic Procedures
 - 1. splenectomy
 - 2. vagotomy
 - 3. small bowel resection
- I. Head and Neck Surgery
 - 1. glossectomy
 - 2. laryngectomy
 - 3. mandibulectomy
 - 4. radical neck dissection
 - 5. salivary duct stone extraction
 - 6. thyroglossal duct cystectomy
- II. Orthopedic Surgery
 - A. Intramedullary Fixation
 - B. Total Shoulder Arthroplasty
 - C. Glenohumeral Dislocation Repair
 - D. Total Elbow Arthroplasty
 - E. Total Wrist Arthroplasty
 - F. Repair of Femoral Head Fractures
 - 1. compression screw or nailing
 - 2. hip pinning
 - G. Osteotomy
 - H. Leg Lengthening Procedures
 - I. Microsurgery
 - 1. replantation of amputated digits and limbs

- III. Genitourinary Surgery
 - A. Adrenalectomy
 - B. Kidney, Ureteral, Bladder Procedures
 - 1. nephrostomy
 - 2. nephrectomy: open and laparoscopic
 - 3. nephrolithotomy/pyelolithotomy
 - 4. pyeloureteroplasty
 - 5. ureterostomy
 - 6. ureterolithotomy
 - 7. percutaneous stone extraction
 - C. Male Reproductive System Surgical Procedures
 - 1. penile implant surgery
 - 2. suprapubic, retropubic, and perineal prostatectomy
- IV. Otorhinolaryngology (Ear, Nose, and Throat Procedures)
 - A. Ear Procedures
 - 1. myringoplasty
 - 2. mastoidectomy
 - 3. tympanoplasty
 - 4. stapedectomy
 - B. Nasal Procedures
 - 1. antrostomy
 - 2. turbinectomy
 - C. Throat Procedures
 - 1. uvulopalatopharyngoplasty (UPP)
 - 2. vocal cord procedures
 - D. Sinus Procedures
 - 1. Caldwell-Luc
 - 2. ethmoidectomy
 - 3. sphenoidectomy
- V. Ophthalmic Surgery
 - A. Eyelid Procedures
 - B. Strabismus Procedures
 - C. Lens Procedures

- D. Retinal Procedures
- E. Vitreous Procedures
- F. Glaucoma Procedures
- G. Miscellaneous Procedures
 1. excision of pterygium
 2. excision of chalazion
 3. lacrimal duct probing
 4. enucleation/evisceration
 5. orbital exenteration

- VI. Oral and Maxillofacial Surgery
 - A. Dental Procedures
 - B. Repair of Fractures
 1. frontal
 - C. Temporomandibular Joint (TMJ) Procedures
 1. arthroscopy
 2. meniscus repair

- VII. Plastic Surgery
 - A. All procedures listed in the *Core Curriculum for Surgical Technology*

- VIII. Neurosurgery
 - A. Cranial Procedures
 1. trephination
 2. basic craniotomy
 - B. Spinal Procedures
 1. lumbar laminectomy
 2. cordotomy/rhizotomy
 - C. Peripheral Nerve Procedures
 1. nerve exploration and transpositions

- IX. Thoracic Surgery
 - A. Mediastinoscopy
 - B. Thoracoscopy
 - C. Insertion Chest Tubes
 - D. Lung Biopsy

- E. Wedge Resection of Lung
- F. Decortication of Lung

- X. Cardiac Surgery
 - A. Pacemaker Implantation
 - B. Cannulation and Decannulation for Extra-corporeal Circulation
 - C. Saphenous Vein Harvesting: Open or Endoscopic

- XI. Peripheral Vascular Surgery
 - A. Carotid Endarterectomy
 - B. Embolectomy/Thrombectomy
 - C. Bypass Grafting
 1. femoral-popliteal
 2. others

- XII. Pediatric Procedures
 - A. All procedures listed in the *Core Curriculum for Surgical Technology*

Section II: Surgical Technology Courses

- I. Advanced Patient Care Concepts
 - A. Advanced Patient Positioning as Related to the Surgical Procedures Listed for Proficient Practitioner
 - B. Advanced Knowledge and Use of Thermoregulatory Devices
 - C. Advanced Knowledge and Use of Blood Replacement Procedures
 - D. Knowledge and Interpretive Skills of EKG
 - E. Emergency Situations
 1. recognize indications of emergency situations
 2. objectives of emergency care
 3. priorities of care
 4. management of syncope

5. types, clinical manifestations, and treatment of convulsions/seizures
6. clinical manifestations and management of anaphylactic reactions
7. clinical manifestations and management of cocaine or local anesthetic reaction
8. clinical manifestations of impending cardiac arrest
9. role of the surgical technologist during cardiac arrest
10. emergency supplies and equipment
11. clinical manifestations and treatment of malignant hyperthermia
12. clinical manifestations and management of hemolytic transfusion reaction

II. Advanced Case Preparation and Procedures

- A. Surgical technologist should be able to perform advanced skills as related to the surgical procedures listed for Proficient Practitioner.

Section III: Circulating Skills

Role Definition: The term “assist” indicates that the surgical technologist functions in the role with certain restrictions. The surgical technologist in the assistant circulating role (STAC) is not educationally prepared in the nursing process and not legally allowed to determine particular kinds of patient evaluations. In addition, state laws and hospital policy restrict the STAC from preparing and administering medications; this function must be performed by a licensed individual. However, the ST is educated to perform tasks related to the perioperative phase, such as

patient positioning, catheterization, and skin preparation.

- I. Surgical Technologist in Assistant Circulating Role
 - A. Help Prepare Room
 - B. Help Open Packs, Supplies, and Instrument Sets
 - C. Transport Patient To and From O.R.
 - D. Help Position Patient
 - E. Aid Anesthesia Provider
 1. anesthetizing patient: general, regional, local
 2. administering blood products
 3. monitoring vital signs
 - F. Catheterization
 - G. Skin Preparation
 - H. Apply Tourniquet
 - I. Apply Grounding Pad
 - J. Monitor Sterile Field
 - K. Complete Patient Documents
 - L. Open Sterile Supplies onto Sterile Field During Procedure
 - M. Perform Counts
 - N. Handle Specimen(s)
 - O. Requisitions for Intraoperative Lab Tests
 - P. Assist with Emergency Situations

APPENDIX III LEVEL III: EXPERT PRACTITIONER

Section I: Advanced Surgical Procedures

- I. Ophthalmic Surgery
 - A. Corneal Procedures
 - B. Dacryocystorhinostomy (DCR)

- II. Oral and Maxillofacial Surgery
 - A. Repair of Fractures
 1. orbital floor (blowout)
 2. zygomatic
 3. LeFort I, II, III
 - B. Craniofacial Reconstruction
 - C. Orthognathic Procedures
 - D. Temporomandibular Joint Replacement

- III. Neurosurgery
 - A. Craniotomy
 1. aneurysm
 2. tumor
 - B. Ventricular Shunting
 - C. Transsphenoidal Hypophysectomy
 - D. Stereotaxic Procedures
 - E. Stealth Station Procedures
 - F. Spinal Procedures
 1. cervical fusion: anterior and posterior
 2. percutaneous discectomy
 3. excision of spinal cord tumor
 4. myelomeningocele repair

- IV. Thoracic Surgery
 - A. Thoracoplasty
 - B. Exploratory Thoracotomy
 - C. Pneumonectomy, Lobectomy, Segmentectomy
 - D. Pericardectomy/Pericardial Window

- V. Cardiac Surgery
 - A. Repair of Congenital Cardiac Anomalies
 - B. Repair of Acquired Lesions

- VI. Peripheral Vascular Surgery
 - A. Shunt Procedures
 - B. Inferior Vena Caval Filter

- C. Aortic Aneurysmectomy

- VII. Trauma Surgery Procedures

- VIII. All Procurement and Transplant Procedures

- IX. All Laser Procedures

Section II: Surgical Technology Courses

- I. Patient Care Concepts
 - A. Surgical technologist should be able to demonstrate superior knowledge and advanced skills as related to the surgical procedures listed for Expert Practitioner.

- II. Case Preparation and Procedures
 - A. Surgical technologist should be able to demonstrate superior knowledge and advanced skills as related to the surgical procedures listed for Expert Practitioner.

- III. Assistant Circulator
 - A. Surgical technologist should be able to demonstrate superior knowledge and advanced skills when performing the role of assistant circulator.

- IV. Lasers
 - A. Surgical technologist should be able to demonstrate superior knowledge and advanced skills when assisting on procedures using a laser.