The SCORE® Curriculum Outline for General Surgery is a list of topics to be covered in a five-year general surgery residency program. The outline is updated annually to remain contemporary and reflect feedback from SCORE member organizations and specialty surgical societies.

Topics are currently listed for four of the six competencies of the Accreditation Council for Graduate Medical Education (ACGME): patient care; medical knowledge; interpersonal and communication skills; and systems-based practice. The patient care topics cover 28 organ system-based categories, with each category separated into Diseases/Conditions and Operations/Procedures. As of this edition, topics within these two areas are then designated as Core (formerly Broad or Essential) or Advanced (formerly Focused or Complex).

Additional changes from the previous edition are indicated in the Excel version of this outline, available at www.surgicalcore.org. Please note topics listed in this booklet may not directly match those currently on the SCORE Portal — this booklet is forward-looking, reflecting the latest updates.

The Surgical Council on Resident Education (SCORE) is a nonprofit consortium formed in 2006 by the principal organizations involved in U.S. surgical education. SCORE’s mission is to improve the education of general surgery residents through the development of a national curriculum for general surgery residency training. The members of SCORE are:

- American Board of Surgery
- American College of Surgeons
- American Surgical Association
- Association of Program Directors in Surgery
- Association for Surgical Education
- Residency Review Committee for Surgery of the ACGME
- Society of American Gastrointestinal and Endoscopic Surgeons
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# INTERPERSONAL AND COMMUNICATION SKILLS

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# Systems-Based Practice

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3. Legal and Institutional Safeguards ..... 62
4. Operations Management ................... 62
5. Physician Organization and Leadership ............................................. 63
SCORE was founded in 2006 by the leading organizations involved in U.S. surgical education to answer the question, “What do we expect our residents to know and be able to do proficiently by the end of their training?” As described by the ACGME, we expect graduating residents to be competent in six areas: patient care; medical knowledge; professionalism; interpersonal and communication skills; practice-based learning; and systems-based practice. In 2004, the American Board of Surgery began to develop a patient care curriculum by listing the specific patient care competencies expected of graduating general surgery residents. This effort was expanded into this document, with significant input from the Association of Program Directors in Surgery, as well as many specialty surgical societies.

The patient care competency was chosen as the first subject for curriculum development because many felt this area was the most in need of definition and attention. An outline of topics for the medical knowledge competency was added with the 2010-2011 edition. This edition for 2015-2016 features the inclusion of two more competencies: interpersonal and communication skills and systems-based practice.

This outline should not be viewed as static. It will be reviewed annually to introduce new topics as needed, delete obsolete topics, or change the depth and breadth of existing topics. As the outline has evolved, many topics have been consolidated to more accurately describe the required knowledge.

THE SCORE PORTAL

The SCORE Portal (www.surgicalcore.org) has been created to provide educational content and assessment in support of the curriculum to general surgery residency programs. Learning “modules” are available on the portal for nearly all of the topics listed in this booklet, with modules for the few remaining topics to be posted in the near future. The Excel version of this outline indicates which topics do not yet have modules on the portal.
Modules on the portal contain learning objectives, study questions and a variety of resource materials, including textbook chapters, videos and radiologic images. Multiple-choice questions are also available to assess resident knowledge. Additional features to facilitate online learning will be implemented this year, as well as new content. For more information, please visit www.surgicalcore.org.

**PATIENT CARE CLASSIFICATION SYSTEM**

The patient care curriculum topics are organized into 28 organ-based categories. Within each category, the topics are further separated into Diseases/Conditions and Operations/Procedures. With this edition, the topics are then stratified into two levels using the same classifications:

**CORE** – Diseases and procedures encountered in general surgery for which a graduate of training will possess significant knowledge and be able to provide comprehensive care, including procedural competency.

**ADVANCED** – Diseases and procedures that are not consistently part of general surgery practice for which a graduate of training should have sufficient knowledge to make a diagnosis and provide initial management. In some instances, graduates will have sufficient knowledge and experience to provide comprehensive care.
1. Abdomen – General

Diseases/Conditions

**Core**
- Abdominal Pain - Acute
- Intra-abdominal Abscess
- Rectus Sheath Hematoma

**Advanced**
- Abdominal Pain - Chronic
- Ascites - Chylos
- Bacterial Peritonitis - Spontaneous
- Desmoids/Fibromatoses
- Mesenteric Cyst
- Peritoneal Neoplasms - Carcinomatosis
- Peritoneal Neoplasms - Pseudomyxoma peritonei

Operations/Procedures

**Core**
- Diagnostic Laparoscopy
- Intra-abdominal Abscess - Drainage
- Peritoneal Dialysis Catheter Insertion
- Peritoneal Lesion - Biopsy

**Advanced**
- Pseudomyxoma - Operation
2. Abdomen – Hernia

Diseases/Conditions

**CORE**
- Inguinal and Femoral Hernias
- Miscellaneous Hernias
- Prosthetic Mesh Infections - Management
- Umbilical and Epigastric Hernias
- Ventral Hernia

Operations/Procedures

**CORE**
- Abdominal Wall Reconstruction - Components Separation
- Inguinal and Femoral Hernia - Repair
- Miscellaneous Hernias - Repair
- Ventral Hernia - Repair

**ADVANCED**
- Diaphragmatic Hernia - Repair
3. Abdomen – Biliary

Diseases/Conditions

**CORE**
- Bile Duct Injury - Iatrogenic
- Cholangitis
- Cholecystitis - Acalculous
- Cholecystitis - Acute and Chronic
- Choledocholithiasis
- Gallbladder Polyps
- Gallstone Ileus
- Jaundice - Obstructive
- Pancreatitis - Biliary

**ADVANCED**
- Ampullary Stenosis/Sphincter of Oddi Dysfunction
- Bile Duct Neoplasms
- Choledochal Cyst
- Gallbladder Cancer
- Primary Sclerosing Cholangitis

Operations/Procedures

**CORE**
- Cholecystectomy with or without Cholangiography
- Cholecystostomy
- Choledochoenteric Anastomosis
- Choledochoscopy
- Common Bile Duct Exploration - Open

**ADVANCED**
- Bile Duct Cancer - Operation
- Bile Duct Injury - Acute Repair
- Bile Duct Neoplasms - Operation
- Common Bile Duct Exploration - Laparoscopic
- Gallbladder Cancer - Operation
- Transduodenal Sphincteroplasty
- Ultrasound of the Biliary Tree
4. Abdomen – Liver

Diseases/Conditions

**CORE**
- Hepatic Abscess
- Hepatic Mass - Evaluation

**ADVANCED**
- Budd-Chiari Syndrome
- Cirrhosis/Portal Hypertension (Ascites)
- Esophageal Varices
- Hepatic Neoplasms - Benign
- Hepatic Neoplasms - Malignant
- Hepatic Neoplasms - Metastatic

Operations/Procedures

**CORE**
- Hepatic Abscess - Drainage
- Hepatic Biopsy

**ADVANCED**
- Hepatic Ultrasound - Intraoperative
- Portal-systemic Shunt
- Segmentectomy/Lobectomy - Laparoscopic
- Segmentectomy/Lobectomy - Open
5. Abdomen – Pancreas

Diseases/Conditions

**CORE**
- Pancreatic Pseudocyst
- Pancreatitis - Acute/Pancreatic Necrosis/Abscess

**ADVANCED**
- Intraductal Papillary Mucinous Neoplasms
- Pancreas Divisum
- Pancreatic Neoplasms - Cystic
- Pancreatic Neoplasms - Endocrine
- Pancreatic Neoplasms - Exocrine
- Pancreatitis - Autoimmune
- Pancreatitis - Chronic (Including Hereditary Pancreatitis)/Pancreatic Insufficiency
- Periampullary Neoplasms - Other

Operations/Procedures

**CORE**
- Pancreatectomy - Distal
- Pancreatic Debridement
- Pancreatic Pseudocyst - Drainage

**ADVANCED**
- Ampullary Resection for Tumor
- Pancreatectomy - Frey and Beger Procedures
- Pancreatectomy - Total
- Pancreatic Ultrasound - Intraoperative
- Pancreaticoduodenectomy
- Pancreaticojejunostomy - Longitudinal
6. Abdomen – Spleen

Diseases/Conditions

**CORE**
- Postsplenectomy Sepsis

**ADVANCED**
- Hemolytic Anemias
- Hypersplenism - Secondary and Splenomegaly
- Idiopathic Thrombocytopenic Purpura
- Splenic Abscess, Cysts, and Neoplasms

Operations/Procedures

**CORE**
- Splenectomy
- Splenectomy/Splenorrhaphy - Partial
7. Alimentary Tract – Esophagus

Diseases/Conditions

**Core**
- Achalasia
- Dysphagia
- Esophageal Diverticula
- Esophageal Perforation - Iatrogenic
- Esophageal Perforation - Spontaneous
- Gastroesophageal Reflux/Barrett’s Esophagus
- Hiatal Hernias
- Mallory-Weiss Syndrome
- Stricture

**Advanced**
- Esophageal Caustic Ingestion and Foreign Bodies
- Esophageal Motility Disorders other than Achalasia
- Esophageal Neoplasms - Benign
- Esophageal Neoplasms - Malignant

Operations/Procedures

**Core**
- Antireflux Procedures
- Cricopharyngeal Myotomy with Zenker’s Diverticulum - Excision
- Esophageal Perforation - Repair/Resection
- Paraesophageal Hernia - Laparoscopic Repair
- Paraesophageal Hernia - Open Repair

**Advanced**
- Esophagectomy/Esophagogastrectomy
- Esophagomyotomy (Heller)
8. Alimentary Tract – Stomach

Diseases/Conditions

**CORE**
- Gastric Cancer
- Gastrointestinal Bleeding - Upper
- Gastrointestinal Stromal Tumors (GIST) and Miscellaneous Neoplasms
- Peptic Ulcer Disease with Complications
- Stress Gastritis

**ADVANCED**
- Gastric Bezoars and Foreign Bodies
- Gastroparesis
- Morbid Obesity
- Postgastrectomy Syndromes

Operations/Procedures

**CORE**
- Duodenal Perforation - Repair
- Gastrectomy - Partial/Total
- Gastrostomy
- Vagotomy and Drainage

**ADVANCED**
- Morbid Obesity - Operation
- Postgastrectomy Syndromes - Revisional Procedures
9. Alimentary Tract – Small Intestine

Diseases/Conditions

**CORE**
- Enterocutaneous Fistula
- Intussusception
- Meckel’s Diverticulum
- Mesenteric Ischemia - Acute (Arterial, Venous, and Nonocclusive)
- Miscellaneous Small Intestinal Neoplasms
- Paralytic Ileus
- Pneumatosis
- Radiation Enteritis
- Small Intestinal Adenocarcinoma
- Small Intestinal Crohn’s Disease - Surgical Management
- Small Intestinal Obstruction
- Small Intestinal Polyps

**ADVANCED**
- Enteric Infections/Blind Loop Syndrome
- Short Bowel Syndrome

Operations/Procedures

**CORE**
- Adhesiolysis
- Feeding Jejunostomy
- Ileostomy
- Ileostomy Closure
- Small Intestinal Resection
- Superior Mesenteric Artery Embolectomy/Thrombectomy

**ADVANCED**
- Stricturoplasty for Crohn’s Disease
10. Alimentary Tract – Large Intestine

Diseases/Conditions

**Core**
- Appendiceal Neoplasms
- Appendicitis
- Clostridium Difficile-Associated Diarrhea
- Colitis - Ischemic
- Colon Cancer
- Colon Neoplasms - Miscellaneous
- Colonic Crohn’s Disease - Surgical Management
- Colonic Polyps
- Colonic Volvulus
- Diverticulitis
- Gastrointestinal Bleeding - Lower
- Obstruction - Large Intestinal
- Ulcerative Colitis - Surgical Management

**Advanced**
- Constipation - Functional
- Irritable Bowel Syndrome
- Polyposis Syndromes

Operations/Procedures

**Core**
- Appendectomy
- Colectomy - Partial
- Colectomy - Subtotal (with Ileorectal Anastomosis/Ileostomy)
- Colostomy
- Colostomy Closure

**Advanced**
- Coloproctectomy - Total (with Ileorectal Pull-through)
11. Alimentary Tract – Anorectal

Diseases/Conditions

**CORE**
- Anal Cancer
- Anal Fissure
- Anorectal Abscess and Fistulae
- Hemorrhoids
- Perianal Condylomas
- Rectal Cancer

**ADVANCED**
- Anal Dysplasia/Sexually Transmitted Diseases
- Fecal Incontinence
- Rectal Prolapse

Operations/Procedures

**CORE**
- Anal Cancer - Excision
- Anal Fistulotomy/Seton Placement
- Anal Sphincterotomy - Internal
- Anorectal Abscess - Drainage
- Banding for Internal Hemorrhoids
- Hemorrhoidectomy
- Perianal Condylomas - Excision

**ADVANCED**
- Anorectal Fistulae - Complex Repair
- Incontinence/Constipation - Operation
- Rectal Cancer - Abdominoperineal Resection and Pelvic Exenteration
- Rectal Cancer - Transanal Resection
- Rectal Prolapse - Repair
12. Endoscopy

Operations/Procedures

**CORE**

- Bronchoalveolar Lavage
- Bronchoscopy
- Colonoscopy
- Esophagogastroduodenoscopy
- Laryngoscopy
- Proctoscopy and Sigmoidoscopy
13. Breast

Diseases/Conditions

**CORE**
- Atypical Ductal Hyperplasia
- Atypical Lobular Hyperplasia and Lobular Carcinoma In Situ
- Benign Disease - Fat Necrosis
- Benign Disease - Fibroadenoma
- Benign Disease - Fibrocystic Breast Changes
- Benign Disease - Galactocele
- Benign Disease - Gynecomastia
- Benign Disease - Intraductal Papilloma
- Benign Disease - Radial Scar
- Benign Inflammatory Disease - Mastitis and Abscess
- Benign Inflammatory Disease - Mondor Disease
- Breast Cancer - Hereditary
- Breast Cancer - Inflammatory
- Breast Cancer - Invasive Carcinoma (Ductal, Lobular, All Variants)
- Breast Cancer - Male
- Breast Cancer - Paget’s Disease of the Nipple
- Breast Cancer During Pregnancy and Lactation
- Breast Mass
- Breast Pain
- Ductal Carcinoma In Situ
- Mammographic Abnormalities
- Nipple Discharge

**ADVANCED**
- Breast Cancer - Phyllodes Tumor
- Postmastectomy Reconstruction Options

Operations/Procedures

**CORE**
- Axillary Sentinel Lymph Node Biopsy and Lymphadenectomy
- Breast Biopsy with or without Needle Localization

(continued next page)
13. Breast (cont.)

Operations/Procedures

CORE (CONT.)
- Breast Cyst - Aspiration
- Duct Excision
- Mastectomy - Partial
- Mastectomy - Simple, Modified Radical, and Radical

ADVANCED
- Breast Biopsy - Image-Guided
14. Endocrine

Diseases/Conditions

**CORE**
- Addisonian Crisis
- Adrenal Cancer
- Adrenal Mass
- Hyperaldosteronism - Primary
- Hypercortisolism - Cushing Syndrome/Disease
- Hyperparathyroidism
- Hyperthyroidism
- Hypothyroidism - Postoperative
- Pheochromocytoma
- Thyroid Cancer
- Thyroid Nodule

**ADVANCED**
- Multiple Endocrine Neoplasias
- Parathyroid Cancer
- Thyroiditis

Operations/Procedures

**CORE**
- Parathyroidectomy
- Thyroidectomy - Partial or Total
- Ultrasound of the Thyroid

**ADVANCED**
- Adrenalectomy
15. Skin and Soft Tissue

Diseases/Conditions

**CORE**
- Adnexal Tumors of the Skin
- Cellulitis
- Felon/Paronychia
- Hidradenitis
- Melanoma and Nevi
- Necrotizing Soft Tissue Infections
- Non-Melanoma Skin Cancers
- Pilonidal Cyst/Sinus
- Soft Tissue Masses - Evaluation
- Surgical Site Infection

**ADVANCED**
- Decubitus Ulcer
- Dermatofibrosarcoma Protruberans (DFSP)
- Lymphedema/Lymphangitis
- Soft Tissue Sarcomas

Operations/Procedures

**CORE**
- Melanoma - Wide Local Excision
- Pilonidal Cystectomy
- Sentinel Lymph Node Biopsy for Melanoma
- Skin/Soft Tissue Lesions - Excisional and Incisional Biopsy
- Soft Tissue Infections - Incision, Drainage, Debridement

**ADVANCED**
- Ilioinguinal-Femoral Lymphadenectomy
- Soft Tissue Sarcoma - Resection
16. Surgical Critical Care

Diseases/Conditions

**CORE**

- Abdominal Compartment Syndrome
- Anaphylaxis
- ARDS and Respiratory Failure
- Cardiac Arrhythmias - Common
- Cardiac Failure
- Cardiogenic Shock
- Coagulopathy
- Derangements of Electrolytes and Acid-Base Balance
- Endocrine Dysfunction
- Gastrointestinal Failure
- Hepatic Failure and Hepatorenal Syndrome
- Hypovolemic Shock
- Neurogenic Shock
- Neurologic Dysfunction
- Pneumonia - Hospital-Acquired
- Postoperative Delirium
- Renal Failure
- Septic Shock

Operations/Procedures

**CORE**

- Airway Management/Ventilator Management
- Arterial Catheter Placement
- Central Venous Catheter Placement
- Compartment Pressures (Abdomen, Extremity) - Measurement
- Damage Control Laparotomy and Management of the Open Abdomen
- Defibrillation and Cardioversion
- Endotracheal Intubation
- Enteral Feeding Tube Placement
- Invasive Hemodynamic Monitoring
- Oxygen Administration Devices
- Paracentesis

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Operations/Procedures

CORE (cont.)

- Pulmonary Artery Catheter Placement
- Thoracentesis
- Ultrasound Use for Intravascular Access
- Urinary Catheterization

ADVANCED

- Cardiac Pacing
- Temporary Transvenous Pacemaker
17. Trauma

Diseases/Conditions

**CORE**

- Aortic Injury
- Bladder Injury
- Burns - Electrical and Chemical
- Burns - Flame and Scald
- Cardiac Tamponade
- Colon and Rectal Injury
- Diaphragmatic Injury
- Esophageal Injury
- Frostbite and Hypothermia
- Gastric Injury
- Geriatric Trauma
- Hemothorax and Pneumothorax
- Hepatic Injury
- Initial Assessment and Management of Trauma
- Myocardial Contusion
- Pancreatic and Duodenal Injury
- Pediatric Trauma
- Pelvic Fractures
- Pulmonary Injury
- Renal Injury
- Retroperitoneal Hematoma
- Rib and Sternal Fractures
- Small Intestinal Injury
- Splenic Injury
- Trauma in Pregnancy
- Upper Aerodigestive Tract Injury
- Ureteral Injury
- Vascular Injury - Abdomen
- Vascular Injury - Extremities
- Vascular Injury - Neck
- Vascular Injury - Thorax

**ADVANCED**

- Animal and Insect Bites and Stings
- Brachial Plexus Injury
- Extremity Fractures and Traumatic Amputations

(continued next page)
17. Trauma (cont.)

Diseases/Conditions

ADVANCED (cont.)

• Head Injury - Penetrating and Closed
• Human Bites
• Smoke Inhalation Injury and Carbon Monoxide Poisoning
• Spine Fracture
• Sprains, Strains, and Dislocations
• Tracheal and Bronchial Injury
• Urethral Injury

Operations/Procedures

CORE

• Abdominal Aorta or Vena Cava Injury - Repair
• Bladder Injury - Repair
• Cardiac Injury - Repair
• Carotid Artery Injury - Repair
• Duodenal Trauma - Management
• Esophageal Injury - Operation
• Exploratory Laparoscopy
• Exploratory Laparotomy
• Fasciotomy for Injury
• Focused Abdominal Sonography for Trauma (FAST)
• Gastrointestinal Tract Injury - Operation
• Hepatic Injury - Packing and Repair
• Neck Exploration for Injury
• Pancreatic Injury - Operation
• Renal Injury - Repair/Resection
• Splenectomy/Splenorrhaphy
• Temporary Closure of the Abdomen
• Thoracoscopy for Management of Hemothorax
• Truncal and Peripheral Vessels - Repair
• Ureteral Injury - Repair
• Wounds, Major - Debride/Suture

ADVANCED

• Burn Debridement and Grafting of Major Burns
• Hepatic Injury - Resection
• Tendon - Repair

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18. Vascular – Arterial Disease

Diseases/Conditions

CORE

• Acute Arterial Thrombosis
• Acute Limb Ischemia
• Aortic Thrombosis
• Aortoiliac Disease
• Cerebrovascular Disease
• Compartment Syndromes
• Diabetic Foot Infections
• Peripheral Arterial Emboli
• Peripheral Vascular Disease and Claudication

ADVANCED

• Aortic Dissection
• Arterial Aneurysms - Aortic
• Arterial Aneurysms - Peripheral
• Arterial Aneurysms - Visceral
• Chronic Visceral Disease
• Hypercoagulable Syndromes
• Nonatherosclerotic Occlusive Diseases
• Renal Artery Disease
• Thoracic Outlet Syndrome
• Vascular Graft Infections

Operations/Procedures

CORE

• Abdominal Aortic Aneurysm - Endovascular/Open Repair
• Amputations - Lower Extremity
• Aortofemoral Bypass
• Embolectomy/Thrombectomy - Arterial
• Extra-anatomic Bypass
• Femoral-popliteal Bypass
• Infra-popliteal Bypass

(continued next page)
18. Vascular – Arterial Disease (cont.)

Operations/Procedures

**ADVANCED**

- Arterial Occlusive Disease - Endarterectomy
- Carotid Endarterectomy
- Endovascular - Therapeutic, Including Thrombolysis
- Femoral Aneurysm - Repair
- Graft-enteric Fistula - Management
- Infrarenal and Aortoiliac Aneurysm - Repair
- Popliteal Aneurysm - Repair
- Pseudoaneurysm - Repair
- Suprarenal Abdominal Aortic Aneurysm - Repair
- Ultrasound in Diagnosis of Vascular Diseases
- Visceral Occlusive Disease - Operation
19. Vascular – Venous

Diseases/Conditions

**CORE**
- Thrombophlebitis - Acute and Suppurative
- Varicose Veins
- Venous Stasis/Chronic Venous Insufficiency
- Venous Thrombosis/Pulmonary Embolism

Operations/Procedures

**CORE**
- Sclerotherapy - Peripheral Vein
- Vena Caval Filter - Insertion
- Venous Insufficiency/Varicose Veins - Operation
20. Vascular – Access

Diseases/Conditions

**CORE**
- Vascular Access for Dialysis
- Venous Access for Long-Term Therapy

Operations/Procedures

**CORE**
- Arteriovenous Graft/Fistula
- Percutaneous Vascular Access
- Venous Access Devices - Insertion
21. Transplantation

Diseases/Conditions

**CORE**
- Brain Death

**ADVANCED**
- Donor Selection Criteria
- Indications for Transplantation (Kidney, Liver, Pancreas)
- Opportunistic Infections
- Organ Preservation
- Post-Transplant Malignancies

Operations/Procedures

**ADVANCED**
- En Bloc Abdominal Organ Retrieval
- Live Donor Hepatectomy
- Live Donor Nephrectomy
- Liver Transplantation
- Pancreas Transplantation
- Renal Transplantation
22. Thoracic Surgery

Diseases/Conditions

**CORE**
- Pleural Effusion/Empyema
- Pneumothorax

**ADVANCED**
- Chylothorax
- Lung Cancer
- Mediastinal Tumors and Cysts
- Mediastinitis
- Metastatic Tumors of the Lung
- Superior Vena Cava Syndrome
- Tracheoesophageal Fistula
- Tracheoinnominate Fistula

Operations/Procedures

**CORE**
- Chest Tube Placement and Management
- Exploratory Thoracotomy - Open and Thoracoscopic
- Partial Pulmonary Resection - Open and Thoracoscopic
- Pericardial Window for Drainage

**ADVANCED**
- Empyema - Management
- Pleurodesis
Diseases/Conditions

**Core**
- Abdominal Mass
- Abdominal Pain - Acute
- Gastrointestinal Bleeding - Lower
- Hypertrophic Pyloric Stenosis
- Inguinal Hernia
- Intussusception
- Malrotation
- Meckel’s Diverticulum
- Tracheal/Esophageal Foreign Bodies
- Umbilical Hernia

**Advanced**
- Biliary Atresia
- Choledochal Cysts
- Congenital Aganglionosis (Hirschsprung’s Disease)
- Congenital Diaphragmatic Hernia
- Cryptorchidism
- Duodenal Atresia/Stenosis
- Esophageal Atresia/Tracheoesophageal Fistula
- Gastrochisis/Omphalocele
- Imperforate Anus
- Intestinal Atresia/Meconium Ileus
- Necrotizing Enterocolitis
- Neuroblastoma
- Wilms Tumor

Operations/Procedures

**Core**
- Inguinal Hernia - Repair
- Intussusception - Operation
- Malrotation - Operation
- Meckel’s Diverticulum - Excision
- Pyloromyotomy
- Umbilical Hernia - Repair

(continued next page)
23. Pediatric Surgery (cont.)

**ADVANCED**

- Antireflux Procedures
- Branchial Cleft Anomaly - Excision
- Chest Wall Deformity - Repair
- Diaphragmatic Hernia - Repair
- Esophageal Atresia/Tracheoesophageal Fistula - Repair
- Hirschsprung’s Disease - Operation
- Imperforate Anus - Operation
- Intestinal Atresia/Stenosis - Repair
- Meconium Ileus - Operation
- Necrotizing Enterocolitis - Operation
- Omphalocele/Gastroschisis - Repair
- Orchiopexy
- Thyroglossal Duct Cyst - Excision
- Wilms Tumor/Neuroblastoma - Excision
24. Plastic Surgery

Diseases/Conditions

**CORE**
- Abdominal Wall Reconstruction

Operations/Procedures

**CORE**
- Complex Wound Closure
- Skin Grafting
25. Genitourinary

Diseases/Conditions

**CORE**
- Hydrocele

**ADVANCED**
- Genitourinary Neoplasms
- Obstructive Uropathy and Urolithiasis
- Ureteral Injury - Iatrogenic

Operations/Procedures

**CORE**
- Cystostomy
- Hydrocelectomy
- Nephrectomy
- Orchiectomy
- Ureteral Injury, iatrogenic - Repair
26. Gynecology

Diseases/Conditions

**Core**
- Ectopic Pregnancy
- Ovarian Mass/Cyst - Incidental
- Pelvic Inflammatory Disease

**Advanced**
- Endometriosis
- Ovarian Neoplasms - Benign and Malignant
- Uterine Neoplasms - Benign and Malignant

Operations/Procedures

**Core**
- Hysterectomy
- Salpingo-oophorectomy

**Advanced**
- Cesarean Section
27. Head and Neck

Diseases/Conditions

**CORE**
- Neck Mass - Evaluation
- Upper Airway Obstruction

**ADVANCED**
- Lymphoma/Hodgkin’s Disease
- Oral Cavity/Pharynx, Laryngeal, and Salivary Gland Cancer

Operations/Procedures

**CORE**
- Cricothyroidotomy
- Lymph Node Biopsy
- Tracheostomy

**ADVANCED**
- Modified Neck Dissection
- Parotidectomy
28. Nervous System

Diseases/Conditions

**CORE**
- Pain, Acute - Management

**ADVANCED**
- Pain, Chronic - Management

Operations/Procedures

**CORE**
- Nerve Block - Digital
- Nerve Block - Intercostal

**ADVANCED**
- Nerve Block(s) - Peripheral other than Digital
DISEASES/CONDITIONS BY LEVEL

DISEASES/CONDITIONS - CORE

Abdomen - General
Abdominal Pain - Acute
Intra-abdominal Abscess
Rectus Sheath Hematoma

Abdomen - Hernia
Inguinal and Femoral Hernias
Miscellaneous Hernias
Prosthetic Mesh Infections - Management
Umbilical and Epigastric Hernias
Ventral Hernia

Abdomen - Biliary
Bile Duct Injury - Iatrogenic
Cholangitis
Cholecystitis - Acalculous
Cholecystitis - Acute and Chronic
Choledocholithiasis
Gallbladder Polyps
Gallstone Ileus
Jaundice - Obstructive
Pancreatitis - Biliary

Abdomen - Liver
Hepatic Abscess
Hepatic Mass - Evaluation

Abdomen - Pancreas
Pancreatic Pseudocyst
Pancreatitis - Acute/Pancreatic Necrosis/Abscess

Abdomen - Spleen
Postsplenectomy Sepsis

Alimentary Tract - Esophagus
Achalasia
Dysphagia
Esophageal Diverticula
Esophageal Perforation - Iatrogenic
Esophageal Perforation - Spontaneous
Gastroesophageal Reflux/Barrett’s Esophagus
Hiatal Hernias
Mallory-Weiss Syndrome
Stricture

Alimentary Tract - Stomach
Gastric Cancer
Gastrointestinal Bleeding - Upper
GIST and Miscellaneous Neoplasms
Peptic Ulcer Disease with Complications
Stress Gastritis

Alimentary Tract - Small Intestine
Enterocutaneous Fistula
Intussusception
Meckel’s Diverticulum
Mesenteric Ischemia - Acute (Arterial, Venous, and Nonocclusive)
Miscellaneous Small Intestinal Neoplasms
Paralytic Ileus
Pneumatosis
Radiation Enteritis
Small Intestinal Adenocarcinoma
Small Intestinal Crohn’s Disease - Surgical Management
Small Intestinal Obstruction
Small Intestinal Polyps

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**Alimentary Tract - Large Intestine**
- Appendiceal Neoplasms
- Appendicitis
- Clostridium Difficile-associated Diarrhea
- Colitis - Ischemic
- Colon Cancer
- Colon Neoplasms - Miscellaneous
- Colonic Crohn’s Disease - Surgical Management
- Colonic Polyps
- Colonic Volvulus
- Diverticulitis
- Gastrointestinal Bleeding - Lower
- Obstruction - Large Intestinal
- Ulcerative Colitis - Surgical Management

**Alimentary Tract - Anorectal**
- Anal Cancer
- Anal Fissure
- Anorectal Abscess and Fistulae
- Hemorrhoids
- Perianal Condylomas
- Rectal Cancer

**Breast**
- Atypical Ductal Hyperplasia
- Atypical Lobular Hyperplasia and Lobular Carcinoma In Situ
- Benign Disease - Fat Necrosis
- Benign Disease - Fibroadenoma
- Benign Disease - Fibrocystic Breast Changes
- Benign Disease - Galactocele
- Benign Disease - Gynecomastia
- Benign Disease - Intraductal Papilloma
- Benign Disease - Radial Scar
- Benign Inflammatory Disease - Mastitis and Abscess
- Benign Inflammatory Disease - Mondor Disease
- Breast Cancer - Hereditary
- Breast Cancer - Inflammatory
- Breast Cancer - Invasive Carcinoma (Ductal, Lobular, All Variants)
- Breast Cancer - Male
- Breast Cancer - Invasive
- Breast Cancer - Paget’s Disease of the Nipple
- Breast Cancer During Pregnancy and Lactation
- Breast Mass
- Breast Pain
- Ductal Carcinoma In Situ
- Mammographic Abnormalities
- Nipple Discharge

**Endocrine**
- Addisonian Crisis
- Adrenal Cancer
- Adrenal Mass
- Hyperaldosteronism - Primary
- Hypercortisolism - Cushing Syndrome/Disease
- Hyperparathyroidism
- Hyperthyroidism
- Hypothyroidism - Postoperative
- Pheochromocytoma
- Thyroid Cancer
- Thyroid Nodule

**Skin and Soft Tissue**
- Adnexal Tumors of the Skin
- Cellulitis
- Felon/Paronychia
- Hidradenitis

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Skin and Soft Tissue (cont.)
Melanoma and Nevi
Necrotizing Soft Tissue Infections
Non-Melanoma Skin Cancers
Pilonidal Cyst/Sinus
Soft Tissue Masses - Evaluation
Surgical Site Infection

Surgical Critical Care
Abdominal Compartment Syndrome
Anaphylaxis
ARDS and Respiratory Failure
Cardiac Arrhythmias - Common
Cardiac Failure
Cardiogenic Shock
Coagulopathy
Derangements of Electrolytes and Acid-Base Balance
Endocrine Dysfunction
Gastrointestinal Failure
Hepatic Failure and Hepatorenal Syndrome
Hypovolemic Shock
Neurogenic Shock
Neurologic Dysfunction
Pneumonia - Hospital Acquired
Postoperative Delirium
Renal Failure
Septic Shock

Trauma
Aortic Injury
Bladder Injury
Burns - Electrical and Chemical
Burns - Flame and Scald
Cardiac Tamponade
Colon and Rectal Injury
Diaphragmatic Injury
Esophageal Injury
Frostbite and Hypothermia
Gastric Injury
Geriatric Trauma
Hemothorax and Pneumothorax
Hepatic Injury
Initial Assessment and Management of Trauma
Myocardial Contusion
Pancreatic and Duodenal Injury
Pediatric Trauma
Pelvic Fractures
Pulmonary Injury
Renal Injury
Retroperitoneal Hematoma
Rib and Sternal Fractures
Small Intestinal Injury
Splenic Injury
Trauma in Pregnancy
Upper Aerodigestive Tract Injury
Ureteral Injury
Vascular Injury - Abdomen
Vascular Injury - Extremities
Vascular Injury - Neck
Vascular Injury - Thorax
Diseases/Conditions - Core (Cont.)

Vascular - Arterial Disease
- Acute Arterial Thrombosis
- Acute Limb Ischemia
- Aortic Thrombosis
- Aortoiliac Disease
- Cerebrovascular Disease
- Compartment Syndromes
- Diabetic Foot Infections
- Peripheral Arterial Emboli
- Peripheral Vascular Disease and Claudication

Vascular - Venous
- Thrombophlebitis - Acute and Suppurative
- Varicose Veins
- Venous Stasis/Chronic Venous Insufficiency
- Venous Thrombosis/Pulmonary Embolism

Vascular - Access
- Vascular Access for Dialysis
- Venous Access for Long-Term Therapy

Transplantation
- Brain Death

Thoracic Surgery
- Pleural Effusion/Empyema
- Pneumothorax

Pediatric Surgery
- Abdominal Mass
- Abdominal Pain - Acute
- Gastrointestinal Bleeding - Lower
- Hypertrophic Pyloric Stenosis
- Inguinal Hernia
- Intussusception
- Malrotation
- Meckel's Diverticulum
- Tracheal/Esophageal Foreign Bodies
- Umbilical Hernia

Plastic Surgery
- Abdominal Wall Reconstruction

Genitourinary
- Hydrocele

Gynecology
- Ectopic Pregnancy
- Ovarian Mass/Cyst - Incidental
- Pelvic Inflammatory Disease

Head and Neck
- Neck Mass - Evaluation
- Upper Airway Obstruction

Nervous System
- Pain, Acute - Management

Diseases/Conditions - Advanced

Abdomen - General
- Abdominal Pain - Chronic
- Ascites - Chylous
- Bacterial Peritonitis - Spontaneous
- Desmoids/Fibromatoses
- Mesenteric Cyst
- Peritoneal Neoplasms - Carcinomatosis
- Peritoneal Neoplasms - Pseudomyxoma peritonei

Abdomen - Biliary
- Ampullary Stenosis/Sphincter of Oddi Dysfunction
- Bile Duct Neoplasms
- Choledochal Cyst
- Gallbladder Cancer
- Primary Sclerosing Cholangitis
Abdomen - Liver
Budd-Chiari Syndrome
Cirrhosis/Portal Hypertension (Ascites)
Esophageal Varices
Hepatic Neoplasms - Benign
Hepatic Neoplasms - Malignant
Hepatic Neoplasms - Metastatic

Abdomen - Pancreas
Intraductal Papillary Mucinous Neoplasms
Pancreas Divisum
Pancreatic Neoplasms - Cystic
Pancreatic Neoplasms - Endocrine
Pancreatic Neoplasms - Exocrine
Pancreatitis - Autoimmune
Pancreatitis - Chronic (Including Hereditary Pancreatitis)/
Pancreatic Insufficiency
Periampullary Neoplasms - Other

Abdomen - Spleen
Hemolytic Anemias
Hypersplenism - Secondary and Splenomegaly
Idiopathic Thrombocytopenic Purpura
Splenic Abscess, Cysts, and Neoplasms

Alimentary Tract - Esophagus
Esophageal Caustic Ingestion and Foreign Bodies
Esophageal Motility Disorders other than Achalasia
Esophageal Neoplasms - Benign
Esophageal Neoplasms - Malignant

Alimentary Tract - Stomach
Gastric Bezoars and Foreign Bodies
Gastroparesis
Morbid Obesity
Postgastrectomy Syndromes

Alimentary Tract - Small Intestine
Enteric Infections and Blind Loop Syndrome
Short Bowel Syndrome

Alimentary Tract - Large Intestine
Constipation - Functional
Irritable Bowel Syndrome
Polyposis Syndromes

Alimentary Tract - Anorectal
Anal Dysplasia/Sexually Transmitted Diseases
Fecal Incontinence
Rectal Prolapse

Breast
Phyllodes Tumor
Postmastectomy Reconstruction Options

Endocrine
Multiple Endocrine Neoplasias
Parathyroid Cancer
Thyroiditis

Skin and Soft Tissue
Decubitus Ulcer
Dermatofibrosarcoma Protruberans (DFSP)
Lymphedema/Lymphangitis
Soft Tissue Sarcomas

Trauma
Animal and Insect Bites and Stings
Brachial Plexus Injury
Extremity Fractures and Traumatic Amputations
Head Injury - Penetrating and Closed
Human Bites
Smoke Inhalation Injury and Carbon Monoxide Poisoning
Spine Fracture
Sprains, Strains, and Dislocations
Tracheal and Bronchial Injury
Urethral Injury
Diseases/Conditions - Advanced (cont.)

Vascular - Arterial Disease
Aortic Dissection
Arterial Aneurysms - Aortic
Arterial Aneurysms - Peripheral
Arterial Aneurysms - Visceral
Chronic Visceral Disease
Hypercoagulable Syndromes
Nonatherosclerotic Occlusive Diseases
Renal Artery Disease
Thoracic Outlet Syndrome
Vascular Graft Infections

Transplantation
Donor Selection Criteria
Indications for Transplantation (Kidney, Liver, Pancreas)
Opportunistic Infections
Organ Preservation
Post-Transplant Malignancies

Thoracic Surgery
Chylothorax
Lung Cancer
Mediastinal Tumors and Cysts
Mediastinitis
Metastatic Tumors of the Lung
Superior Vena Cava Syndrome
Tracheoesophageal Fistula
Tracheoinnominate Fistula

Pediatric Surgery
Biliary Atresia
Choledochal Cysts
Congenital Aganglionosis (Hirschsprung’s Disease)
Congenital Diaphragmatic Hernia
Cryptorchidism
Duodenal Atresia/Stenosis
Esophageal Atresia/Tracheoesophageal Fistula
Gastrochisis/Omphaolocele
Imperforate Anus
Intestinal Atresia/Meconium Ileus
Necrotizing Enterocolitis
Neuroblastoma
Wilms Tumor

Genitourinary
Genitourinary Neoplasms
Obstructive Uropathy and Urolithiasis
Ureteral Injury - iatrogenic

Gynecology
Endometriosis
Ovarian Neoplasm - Benign and Malignant
Uterine Neoplasms - Benign and Malignant

Head and Neck
Lymphoma/Hodgkin’s Disease
Oral Cavity/Pharynx, Laryngeal, and Salivary Gland Cancer

Nervous System
Pain, Chronic - Management
## Operations/Procedures by Level

### Operations/Procedures - Core

#### Abdomen - General
- Diagnostic Laparoscopy
- Intra-abdominal Abscess - Drainage
- Peritoneal Dialysis Catheter Insertion
- Peritoneal Lesion - Biopsy

#### Abdomen - Hernia
- Abdominal Wall Reconstruction - Components Separation
- Inguinal and Femoral Hernia - Repair
- Miscellaneous Hernias - Repair
- Ventral Hernia - Repair

#### Abdomen - Biliary
- Cholecystectomy with or without Cholangiography
- Choledochocystostomy
- Choledochoenteric Anastomosis
- Choledochoscopy
- Common Bile Duct Exploration - Open

#### Abdomen - Liver
- Hepatic Abscess - Drainage
- Hepatic Biopsy

#### Abdomen - Pancreas
- Pancreatectomy - Distal
- Pancreatic Debridement
- Pancreatic Pseudocyst - Drainage

#### Abdomen - Spleen
- Splenectomy
- Splenectomy/Splenorrhaphy - Partial

#### Alimentary Tract - Esophagus
- Antireflux Procedures
- Cricopharyngeal Myotomy with Zenker’s Diverticulum - Excision
- Esophageal Perforation - Repair/Resection
- Paraesophageal Hernia - Laparoscopic Repair
- Paraesophageal Hernia - Open Repair

#### Alimentary Tract - Stomach
- Duodenal Perforation - Repair
- Gastrectomy - Partial/Total
- Gastrostomy
- Vagotomy and Drainage

#### Alimentary Tract - Small Intestine
- Adhesiolysis
- Feeding Jejunostomy
- Ileostomy
- Ileostomy Closure
- Small Intestinal Resection
- Superior Mesenteric Artery Embolectomy/Thrombectomy

#### Alimentary Tract - Large Intestine
- Appendectomy
- Colectomy - Partial
- Colectomy - Subtotal (with Ileorectal Anastomosis/Ileostomy)
- Colostomy
- Colostomy Closure

#### Alimentary Tract - Anorectal
- Anal Cancer - Excision
- Anal Fistulotomy/Seton Placement
- Anal Sphincterotomy - Internal
- Anorectal Abscess - Drainage
- Banding for Internal Hemorrhoids
- Hemorrhoidectomy
- Perianal Condylomas - Excision

#### Endoscopy
- Bronchoalveolar Lavage
- Bronchoscopy
- Colonoscopy
- Esophagogastroduodenoscopy
- Laryngoscopy
- Proctoscopy and Sigmoidoscopy
Breast
Axillary Sentinel Lymph Node Biopsy and Lymphadenectomy
Breast Biopsy with or without Needle Localization
Breast Cyst - Aspiration
Duct Excision
Mastectomy - Partial
Mastectomy - Simple, Modified Radical, and Radical

Endocrine
Parathyroidectomy
Thyroidectomy - Partial or Total
Ultrasound of the Thyroid

Skin and Soft Tissue
Melanoma - Wide Local Excision
Pilonidal Cystectomy
Sentinel Lymph Node Biopsy for Melanoma
Skin/Soft Tissue Lesions - Excisional and Incisional Biopsy
Soft Tissue Infections - Incision, Drainage, Debridement

Surgical Critical Care
Airway Management/Ventilator Management
Arterial Catheter Placement
Central Venous Catheter Placement
Compartment Pressures (Abdomen, Extremity) - Measurement
Damage Control Laparotomy and Management of the Open Abdomen
Defibrillation and Cardioversion
Endotracheal Intubation
Enteral Feeding Tube Placement
Invasive Hemodynamic Monitoring
Oxygen Administration Devices
Paracentesis
Pulmonary Artery Catheter Placement
Thoracentesis
Ultrasound Use for Intravascular Access
Urinary Catheterization

Trauma
Abdominal Aorta or Vena Cava Injury - Repair
Bladder Injury - Repair
Cardiac Injury - Repair
Carotid Artery Injury - Repair
Duodenal Trauma - Management
Esophageal Injury - Operation
Exploratory Laparoscopy
Exploratory Laparotomy
Fasciotomy for Injury
Focused Abdominal Sonography for Trauma (FAST)
Gastrointestinal Tract Injury - Operation
Hepatic Injury - Packing and Repair
Neck Exploration for Injury
Pancreatic Injury - Operation
Renal Injury - Repair/Resection
Splenectomy/Splenorrhaphy
Temporary Closure of the Abdomen
Thoracoscopy for Management of Hemothorax
Truncal and Peripheral Vessels - Repair
Ureteral Injury - Repair
Wounds, Major - Debride/Suture

Vascular - Arterial Disease
Abdominal Aortic Aneurysm - Endovascular/Open Repair
Amputations - Lower Extremity
Aortofemoral Bypass
Embolectomy/Thrombectomy - Arterial
Extra-anatomic Bypass
Femoral-popliteal Bypass
Infrapopliteal Bypass
Vascular - Venous
Sclerotherapy - Peripheral Vein
Vena Caval Filter - Insertion
Venous Insufficiency/Varicose Veins - Operation

Vascular - Access
Arteriovenous Graft/Fistula
Percutaneous Vascular Access
Venous Access Devices - Insertion

Thoracic Surgery
Chest Tube Placement and Management
Exploratory Thoracotomy - Open and Thoracoscopic
Partial Pulmonary Resections - Open and Thoracoscopic
Pericardial Window for Drainage

Pediatric Surgery
Inguinal Hernia - Repair
Intussusception - Operation
Malrotation - Operation
Meckel's Diverticulum - Excision
Pyloromyotomy
Umbilical Hernia - Repair

Plastic Surgery
Complex Wound Closure
Skin Grafting

Genitourinary
Cystostomy
Hydrocelectomy
Nephrectomy
Orchiectomy
Ureteral Injury, Iatrogenic - Repair

Gynecology
Hysterectomy
Salpingo-oophorectomy

Head and Neck
Cricothyroidotomy
Lymph Node Biopsy
Tracheostomy

Nervous System
Nerve Block - Digital
Nerve Block - Intercostal

Abdomen - General
Pseudomyxoma - Operation

Abdomen - Hernia
Diaphragmatic Hernia - Repair

Abdomen - Biliary
Bile Duct Cancer - Operation
Bile Duct Injury - Acute Repair
Bile Duct Neoplasms - Operation
Common Bile Duct Exploration - Laparoscopic
Gallbladder Cancer - Operation
Transduodenal Sphincteroplasty
Ultrasound of the Biliary Tree

Abdomen - Liver
Hepatic Ultrasound - Intraoperative
Portal-Systemic Shunt
Segmentectomy/Lobectomy - Laparoscopic
Segmentectomy/Lobectomy - Open
Abdomen - Pancreas
Ampullary Resection for Tumor
Pancreatectomy - Frey and Beger Procedures
Pancreatectomy - Total
Pancreatic Ultrasound - Intraoperative
Pancreaticoduodenectomy
Pancreaticojejunostomy - Longitudinal

Alimentary Tract - Esophagus
Esophagectomy/Esophagogastrectomy
Esophagomyotomy (Heller)

Alimentary Tract - Stomach
Morbid Obesity - Operation
Postgastrectomy Syndromes - Revisional Procedures

Alimentary Tract - Small Intestine
Strictureplasty for Crohn’s Disease

Alimentary Tract - Large Intestine
Coloproctectomy - Total (with ileorectal Pull-Through)

Alimentary Tract - Anorectal
Anorectal Fistulae - Complex Repair
Incontinence/Constipation - Operation
Rectal Cancer - Abdominoperineal Resection and Pelvic Exenteration
Rectal Cancer - Transanal Resection
Rectal Prolapse - Repair

Breast
Breast Biopsy - Image-guided

Endocrine
Adrenalectomy

Skin and Soft Tissue
Ilioinguinal-Femoral Lymphadenectomy
Soft Tissue Sarcoma - Resection

Surgical Critical Care
Cardiac Pacing
Temporary Transvenous Pacemaker

Trauma
Burn Debridement and Grafting of Major Burns
Hepatic Injury - Resection
Tendon - Repair

Vascular - Arterial Disease
Arterial Occlusive Disease - Endarterectomy
Carotid Endarterectomy
Endovascular - Therapeutic, Including Thrombolysis
Femoral Aneurysm - Repair
Graft-enteric Fistula - Management
Infrarenal and Aortoiliac Aneurysm - Repair
Popliteal Aneurysm - Repair
Pseudoaneurysm - Repair
Suprarenal Abdominal Aortic Aneurysm - Repair
Ultrasound in Diagnosis of Vascular Diseases
Visceral Occlusive Disease - Operation

Transplantation
En Bloc Abdominal Organ Retrieval
Live Donor Hepatectomy
Live Donor Nephrectomy
Liver Transplantation
Pancreas Transplantation
Renal Transplantation

Thoracic Surgery
Empyema - Management
Pleurodesis
**Pediatric Surgery**
- Antireflux Procedures
- Branchial Cleft Anomaly - Excision
- Chest Wall Deformity - Repair
- Diaphragmatic Hernia - Repair
- Esophageal Atresia/Tracheoesophageal Fistula - Repair
- Hirschsprung's Disease - Operation
- Imperforate Anus - Operation
- Intestinal Atresia/Stenosis - Repair
- Meconium Ileus - Operation
- Necrotizing Enterocolitis - Operation
- Omphalocele/Gastroschisis - Repair
- Orchiopexy
- Thyroglossal Duct Cyst - Excision
- Wilms Tumor/Neuroblastoma - Excision

**Gynecology**
- Cesarean Section

**Head and Neck**
- Modified Neck Dissection
- Parotidectomy

**Nervous System**
- Nerve Block(s) - Peripheral other than Digital
1. Anesthesia

- Anesthesia, General - Agents and Techniques
- Anesthesia, Regional and Local - Agents and Techniques
- Choice of Anesthesia
- Conscious Sedation - Agents and Techniques
- Intraoperative Monitoring and Common Intraoperative Problems
- Postoperative Pain Management

2. Biostatistics and Evaluation of Evidence

- Clinical Trials
- Evaluating the Quality and Applicability of a Study
- How Data is Expressed and Summarized
- Levels of Evidence
- Outcomes
- Research Design
- Surveys and Qualitative Research
- Tests of Significance

3. Fluids, Electrolytes, and Acid-Base Balance

- Body Fluid Compartments and Fluid Homeostasis
- Hypocalcemia and Hypercalcemia
- Hypokalemia and Hyperkalemia
- Hyponatremia and Hypernatremia
- Magnesium and Phosphorous Disorders
- Normal Acid-Base Regulation and Acid-Base Disorders
4. Geriatric Surgery and End-of-Life Care

- Advanced Directives, DNR Orders, and Power of Attorney
- Functional Decline of Aging
- Goal Setting with Elderly Patients and Families
- Medication and Dosing Issues in the Elderly
- Natural and Clinical Impact of Physiologic Effects Associated with Aging
- Palliative and Hospice Care
- Preoperative Evaluation of Geriatric Patients

5. Immunology

- Components of the Immune System
- Immune Response to Injury and Infection
- Surgery and Surgical Conditions in Immuno-compromised Hosts
- Transplant Immunology

6. Infection and Antimicrobial Therapy

- Healthcare-Acquired Infections
- Hepatitis - Viral (Occupational Risk)
- Host Defense and Infection
- Infection Control – Avoiding Risk to Self and Others
- Infections – Bacterial, Common
- Infections – Diagnostic Approach
- Infections – Fungal, Common
- Infections – Viral, Common
- Pathophysiology of Sepsis
- Principles of Antimicrobial Resistance
- Sepsis/SIRS Syndrome
- Surgical Site Infections and Prophylaxis
7. Minimally Invasive Surgery – Principles

- MIS Equipment and Troubleshooting
- Physiologic Changes Associated with Pneumoperitoneum
- Principles and Techniques of Abdominal Access
- Robotic Surgery – Principles

8. Nutrition and Metabolism

- Effect of Surgery, Illness, and Injury on Nutritional Requirements
- Nutrition, Enteral – Technique
- Nutrition, Parenteral – Technique
- Nutritional Assessment, Indications, and Choice of Route for Nutritional Support
- Nutritional Pharmacology and Immunonutrition
- Nutritional Requirements
- Nutritional Support – Long-Term

9. Oncology and Tumor Biology

- Chemotherapy - Principles
- Epidemiology
- Genetic Susceptibility
- Immunology
- Molecular Biology
- Radiation Therapy - Principles
- Screening and Biomarkers

10. Pharmacology

- Adverse Effects of Drugs Commonly Used in Surgical Patients
- Principles of Pharmacokinetics, Pharmacodynamics, and Monitoring of Drug Levels
11. Preoperative Evaluation and Perioperative Care

• Common Postoperative Problems
• Evaluation of Surgical Risk
• Perioperative Management of the Patient on Steroids
• Perioperative Management of the Therapeutically Anticoagulated Patient
• Preoperative Assessment and Management of Cardiac Risk
• Preoperative Assessment and Management of Coexisting Infection
• Preoperative Assessment and Management of Pulmonary Risk
• Prophylaxis for Venous Thromboembolism

12. Transfusion and Disorders of Coagulation

• Evaluation of Ongoing Bleeding and Laboratory Assessment of Coagulation
• Inherited and Acquired Disorders of Coagulation
• Normal Mechanisms of Hemostasis and Coagulation
• Transfusion – Indications, Risks, Type and Crossmatch, and Component Therapy

13. Wound Healing

• Disturbances of Wound Healing and Chronic Wounds
• Physiology of Normal Wound Healing
• Wound Care – Adjunctive
• Wound Care – Postoperative
• Wound Closure
1. Ethical Issues in Clinical Surgery: Competition of Interests

- Accepting Gifts from Vendors
- Clinical Research
- Confronting Problem Behavior
- Non-Patient Care Obligations
- Personal Investments
- Refusal to Care for Patients
- Reimbursement Incentives

2. Ethical Issues in Clinical Surgery: Truth Telling

- Dealing with Complications and Poor Outcomes
- Informed Consent
- Listening and the Surgeon-Patient Relationship
- Respecting Cultural Diversity and Individual Sensitivities
- Truth Telling and the Surgeon-Patient Relationship
- Use of the Internet and E-mail for Communication

3. Ethical Issues in Clinical Surgery: Confidentiality

- Concern for the Safety of Identifiable Others
- Conversations about Patients in Public
- Duty to Report Patients to Public Authorities
- Relaying Genetic Test Results to Family Members
- Revealing Confidential Information
- Surgeons Infected with Blood-Borne Diseases
4. Ethical Issues in Clinical Surgery: Professional Obligations

- Obligations to Other Professionals
- Obligations to Patients: Commitment
- Obligations to Patients: Competence
- Obligations to Society: Allocation of Resources
- Obligations to Society: Teaching and Learning Surgery

5. Ethical Issues in Clinical Surgery: End-of-Life Issues

- Advance Directives and the Surgical Patient
- DNR Orders in the Operating Room
- Euthanasia and Physician-assisted Suicide
- Futility
- Maintaining Contact
- Palliative Care
- Talking About Death
- Withdrawing and Withholding Treatment

6. Ethical Issues in Clinical Surgery: Substitute Decision Making

- By What Criteria Should Substitute Decision Makers Decide?
- Substitute Decision Makers and DNR Orders
- Substitute Decisions for Children
- Unclear Competence and Decision-Making Capacity
- Who Decides When the Patient Cannot?

7. Non-Technical Skills for Surgeons

- Cognitive Skills (Situation Awareness and Decision Making)
- Social Skills (Communication, Teamwork and Leadership)
8. Surgical Professionalism and Interpersonal Communication Education (SPICE)

- Admitting Mistakes - Ethical Choices and Reasoning
- Advanced Communication Skills for Surgical Practice
- Cultural Diversity - Working Through the Barriers of Language and Differing Customs
- Delivering Bad News - Your Chance to Become a Master Surgeon
- Managing Your Career - Making the Professional and Personal Choices that will Define You
- The Stress of Surgical Practice - The Signs of Stress, Depression, and Suicide in You and Your Surgical Colleagues
- Working with Professionals Around You - Team Communication and Respect
1. Economics and Cost Accounting

• Allocating Overhead
• Historical Background
• How Hospitals are Paid
• How Physicians are Paid
• The Throughput Imperative
• What It Costs to Deliver Care
• Who Pays for Health Care?

2. Financial Stewardship

• Applying Finance to Healthcare
• CT Scanner Case Study
• The Capital Budgeting Process
• Health Systems’ Financial Underpinnings
• Introduction to Corporate Finance
• Practical Advice Capital Budgeting

3. Legal and Institutional Safeguards

• Applied Quality Assurance
• Conflict of Interest
• Health Care Compliance
• Medical Liability
• Quality Assurance

4. Operations Management

• Bottlenecks and Critical Pathways
• Introduction to Operations Management
• Little’s Law
• Managing Variability
5. Physician Organization and Leadership

- Facing Cuts in Radiology Reimbursement Case Study
- Marketing Physician Practices
- The Medical Staff and Its By-Laws
- Negotiations and Physician Contracting
- Physician Group Practices
- Physician Leadership
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