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

Changes from the previous edition are indicated in the Excel version of this outline, available at www.surgicalcore.org. Note that topics listed in this booklet may not directly match those currently on the SCORE Portal — this outline 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
- Review Committee for Surgery of the ACGME
- Society of American Gastrointestinal and Endoscopic Surgeons
## PATIENT CARE
### CONTENTS

<table>
<thead>
<tr>
<th>Category</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>BY CATEGORY</td>
<td>9</td>
</tr>
<tr>
<td>1. Abdomen – General</td>
<td>9</td>
</tr>
<tr>
<td>2. Abdomen – Hernia</td>
<td>10</td>
</tr>
<tr>
<td>3. Abdomen – Biliary</td>
<td>11</td>
</tr>
<tr>
<td>4. Abdomen – Liver</td>
<td>12</td>
</tr>
<tr>
<td>5. Abdomen – Pancreas</td>
<td>13</td>
</tr>
<tr>
<td>6. Abdomen – Spleen</td>
<td>14</td>
</tr>
<tr>
<td>7. Alimentary Tract – Esophagus</td>
<td>15</td>
</tr>
<tr>
<td>8. Alimentary Tract – Stomach</td>
<td>16</td>
</tr>
<tr>
<td>9. Alimentary Tract – Small Intestine</td>
<td>17</td>
</tr>
<tr>
<td>10. Alimentary Tract – Large Intestine</td>
<td>18</td>
</tr>
<tr>
<td>11. Alimentary Tract – Anorectal</td>
<td>19</td>
</tr>
<tr>
<td>12. Endoscopy</td>
<td>20</td>
</tr>
<tr>
<td>13. Breast</td>
<td>21-22</td>
</tr>
<tr>
<td>14. Endocrine</td>
<td>23</td>
</tr>
<tr>
<td>15. Skin and Soft Tissue</td>
<td>24</td>
</tr>
<tr>
<td>16. Surgical Critical Care</td>
<td>25-26</td>
</tr>
<tr>
<td>17. Trauma</td>
<td>27-28</td>
</tr>
<tr>
<td>18. Vascular – Arterial Disease</td>
<td>29-30</td>
</tr>
<tr>
<td>19. Vascular – Venous</td>
<td>31</td>
</tr>
<tr>
<td>20. Vascular – Access</td>
<td>32</td>
</tr>
<tr>
<td>21. Transplantation</td>
<td>33</td>
</tr>
<tr>
<td>22. Thoracic Surgery</td>
<td>34</td>
</tr>
<tr>
<td>23. Pediatric Surgery</td>
<td>35-36</td>
</tr>
<tr>
<td>24. Plastic Surgery</td>
<td>37</td>
</tr>
<tr>
<td>25. Genitourinary</td>
<td>38</td>
</tr>
<tr>
<td>26. Gynecology and Obstetrics</td>
<td>39</td>
</tr>
<tr>
<td>27. Head and Neck</td>
<td>40</td>
</tr>
<tr>
<td>28. Nervous System</td>
<td>41</td>
</tr>
</tbody>
</table>

| Diseases by Level               | 42   |
| Core                            | 42-45|
| Advanced                        | 46-47|

| Operations by Level            | 48   |
| Core                            | 48-50|
| Advanced                        | 51-52|
1. Anesthesia ............................................. 53
2. Biostatistics and Evaluation of Evidence ............................................. 53
3. Fluids, Electrolytes and Acid-Base Balance ............................................. 53
4. Geriatric Surgery and End-of-Life Care .................................................. 54
5. Immunology ............................................. 54
6. Infection and Antimicrobial Therapy ............................................. 54
7. Minimally Invasive Surgery – Principles ............................................. 55
8. Nutrition and Metabolism ............................................. 55
9. Oncology and Tumor Biology ............................................. 55
10. Preoperative Evaluation and Perioperative Care ..................................... 55
11. Transfusion and Disorders of Coagulation ............................................. 56
12. Wound Healing ............................................. 56
# PROFESSIONALISM

## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Competition of Interests</td>
<td>57</td>
</tr>
<tr>
<td>2. Truth Telling</td>
<td>57</td>
</tr>
<tr>
<td>3. Confidentiality</td>
<td>57</td>
</tr>
<tr>
<td>4. Professional Obligations</td>
<td>58</td>
</tr>
<tr>
<td>5. End-of-Life Issues</td>
<td>58</td>
</tr>
<tr>
<td>6. Substitute Decision Making</td>
<td>58</td>
</tr>
</tbody>
</table>

# INTERPERSONAL AND COMMUNICATION SKILLS

## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Non-Technical Skills for Surgeons</td>
<td>59</td>
</tr>
<tr>
<td>2. SPICE</td>
<td>59</td>
</tr>
</tbody>
</table>

# PRACTICE-BASED LEARNING AND IMPROVEMENT

## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Quality Improvement</td>
<td>60</td>
</tr>
</tbody>
</table>

# SYSTEMS-BASED PRACTICE

## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Systems-Based Practice</td>
<td>61</td>
</tr>
</tbody>
</table>
ABOUT THIS DOCUMENT

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?” In 2004, the American Board of Surgery began to develop a 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.

This outline should not be viewed as static. It will continue to 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 also 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, discussion questions, and a variety of resource materials, including textbook chapters, videos and radiologic images. Multiple-choice questions are also available to assess resident knowledge. The portal also offers This Week in SCORE® (TWIS), a two-year schedule of topics to assist programs in covering the portal’s content. Each week a new topic is featured, along with related modules and a 10-question quiz. To learn more about TWIS and the SCORE Portal, 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. 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
- Abdominal Pain - Chronic
- Rectus Sheath Hematoma

**ADVANCED**
- Ascites - Chylous
- 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
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
• Diaphragmatic Hernia - Repair
• Inguinal and Femoral Hernia - Repair
• Miscellaneous Hernias - Repair
• Ventral Hernia - Repair

ADVANCED
• Abdominal Wall Reconstruction - Components Separation
3. Abdomen – Biliary

Diseases/Conditions

**Core**
- Bile Duct Injury - Iatrogenic
- Bile Duct Neoplasms
- Cholangitis
- Cholecystitis - Acalculous
- Cholecystitis - Acute and Chronic
- Choledochal Cyst
- Choledocholithiasis
- Gallbladder Cancer
- Gallbladder Polyps
- Gallstone Ileus
- Jaundice - Obstructive
- Pancreatitis - Biliary

**Advanced**
- Ampullary Stenosis/Sphincter of Oddi Dysfunction
- Primary Sclerosing Cholangitis

Operations/Procedures

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

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

Diseases/Conditions

**Core**
- Hepatic Abscess
- Hepatic Mass - Evaluation
- Hepatic Neoplasms - Benign
- Hepatic Neoplasms - Malignant
- Hepatic Neoplasms - Metastatic

**Advanced**
- Budd-Chiari Syndrome
- Cirrhosis/Portal Hypertension (Ascites)
- Esophageal Varices

Operations/Procedures

**Core**
- Hepatic Abscess - Drainage
- Hepatic Biopsy

**Advanced**
- Hepatic Ultrasound - Intraoperative
- Segmentectomy/Lobectomy - Laparoscopic
- Segmentectomy/Lobectomy - Open
5. Abdomen – Pancreas

Diseases/Conditions

**CORE**
- Pancreatic Neoplasms - Cystic
- Pancreatic Neoplasms - Endocrine
- Pancreatic Neoplasms - Exocrine
- Pancreatic Pseudocyst
- Pancreatitis - Acute/Pancreatic Necrosis/Abscess

**ADVANCED**
- Intraductal Papillary Mucinous Neoplasms
- Pancreas Divisum
- Pancreatitis - Autoimmune
- Pancreatitis - Chronic (Including Hereditary Pancreatitis)/Pancreatic Insufficiency

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**
- Idiopathic Thrombocytopenic Purpura
- Postsplenectomy Sepsis

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

Operations/Procedures

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

Diseases/Conditions

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

**Advanced**
- Esophageal Caustic Ingestion and Foreign Bodies
- Esophageal Diverticula
- Esophageal Motility Disorders other than Achalasia
- Esophageal Perforation - Spontaneous

Operations/Procedures

**Core**
- Antireflux Procedures

**Advanced**
- Cricopharyngeal Myotomy with Zenker’s Diverticulum - Excision
- Esophageal Perforation - Repair/Resection
- Esophagectomy/Esophagogastrectomy
- Esophagomyotomy (Heller)
- Paraesophageal Hernia - Laparoscopic Repair
- Paraesophageal Hernia - Open Repair
8. Alimentary Tract – Stomach

Diseases/Conditions

**CORE**
- Gastric Adenocarcinoma
- Gastric Bezoars and Foreign Bodies
- Gastrointestinal Bleeding - Upper
- Gastrointestinal Stromal Tumors (GIST) and Miscellaneous Neoplasms
- Morbid Obesity
- Peptic Ulcer Disease
- Stress Gastritis

**ADVANCED**
- Gastroparesis
- Postgastrectomy Syndromes

Operations/Procedures

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

**ADVANCED**
- Morbid Obesity - Operations
- 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 Crohn’s Disease - Surgical Management
- Small Intestinal Obstruction
- Small Intestinal Polyps

**ADVANCED**
- Enteric Infections/Blind Loop Syndrome
- Short Bowel Syndrome
- Small Intestinal Adenocarcinoma

Operations/Procedures

**CORE**
- Adhesiolysis
- Feeding Jejunostomy
- Ileostomy
- Ileostomy Closure
- Small Intestinal Resection

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

Diseases/Conditions

**CORE**
- Appendiceal Neoplasms
- Appendicitis
- C. difficile Colitis
- Colitis - Ischemic
- Colon Cancer
- Colonic Crohn’s Disease - Surgical Management
- Colonic Polyps
- Colonic Volvulus
- Diverticulitis
- Gastrointestinal Bleeding - Lower
- Obstruction - Large Intestinal
- Ulcerative Colitis - Surgical Management

**ADVANCED**
-Colon Neoplasms - Miscellaneous
- Constipation - Functional
- Irritable Bowel Syndrome
- Polyposis Syndromes

Operations/Procedures

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

**ADVANCED**
- Coloprostectomy - Total (with Ileorectal Pull-through)
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 Fistulotomy/Seton Placement
- Anal Sphincterotomy - Internal
- Anorectal Abscess - Drainage
- Banding for Internal Hemorrhoids
- Hemorrhoidectomy
- Perianal Condylomas - Excision

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

Diseases/Conditions

ADVANCED
- Aerodigestive Tract Foreign Bodies

Operations/Procedures

CORE
- Bronchoalveolar Lavage
- Bronchoscopy
- Colonoscopy
- Esophagastroduodenoscopy
- 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
- Phyllodes Tumor

**ADVANCED**

- Postmastectomy Reconstruction Options

Operations/Procedures

**CORE**

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

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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**
- Adrenal Mass - Incidental
- Hyperaldosteronism - Primary
- Hypercortisolism - Cushing Syndrome/Disease
- Hyperparathyroidism
- Hyperthyroidism
- Hypothyroidism - Postoperative
- Pheochromocytoma
- Thyroid Cancer
- Thyroid Nodule
- Thyroiditis

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

Operations/Procedures

**CORE**
- Parathyroidectomy
- Thyroidectomy - Partial or Total

**ADVANCED**
- Adrenalectomy
- Ultrasound of the Thyroid
15. Skin and Soft Tissue

Diseases/Conditions

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

**ADVANCED**
- Decubitus Ulcer
- Dermatofibrosarcoma Protruberans (DFSP)
- Desmoids/Fibromatoses
- 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
- Brain Death
- Cardiac Arrhythmias - Common
- Cardiac Failure
- Cardiogenic Shock
- Derangements of Electrolytes and Acid-Base Balance
- Endocrine Dysfunction
- Hepatic Failure and Hepatorenal Syndrome
- Hypovolemic Shock
- Neurogenic Shock
- Neurologic Dysfunction
- Pneumonia - Hospital-Acquired
- Postoperative Delirium
- Renal Failure
- Septic Shock

**ADVANCED**
- Organ Donors and Selection Criteria

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
- Paracentesis

(continued next page)
16. Surgical Critical Care (cont.)

Operations/Procedures

**CORE (cont.)**
- Pulmonary Artery Catheter Placement
- Thoracentesis
- Ultrasound Use for Intravascular Access

**ADVANCED**
- Cardiac Pacing
- Temporary Transvenous Pacemaker
17. Trauma

Diseases/Conditions

**Core**
- Aortic Injury
- Bladder Injury
- Burns
- 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 Injury
- 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
- Head Injury - Penetrating and Closed

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

Diseases/Conditions

ADVANCED (CONT.)
- 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 - Repair
- Exploratory Laparoscopy
- Exploratory Laparotomy
- Focused Abdominal Sonography for Trauma (FAST)
- Gastrointestinal Tract Injury - Repair
- Hepatic Injury - Packing and Repair
- Lower Extremity Fasciotomy
- Neck Exploration for Injury
- Pancreatic Injury - Operation
- Renal Injury - Repair/Resection
- Splenectomy/Splenorrhaphy
- Temporary Closure of the Abdomen
- Truncal and Peripheral Vessels - Repair
- Ureteral Injury - Repair
- Wounds, Major - Debride/Suture

ADVANCED
- Burn Debridement and Grafting of Major Burns
- Escharotomy for Burn Injury
- Hepatic Injury - Resection
- Tendon - Repair
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
- Nonatherosclerotic Occlusive Diseases
- Renal Artery Disease
- Thoracic Outlet Syndrome
- Vascular Graft Infections

Operations/Procedures

**CORE**
- Amputations - Lower Extremity
- Embolectomy/Thrombectomy - Arterial
- Femoral-popliteal Bypass

**ADVANCED**
- Abdominal Aortic Aneurysm - Endovascular/ Open Repair
- Aortofemoral Bypass
- Arterial Occlusive Disease - Endarterectomy
- Carotid Endarterectomy
- Endovascular Intervention Principles
- Extra-anatomic Bypass

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

Operations/Procedures

Advanced (Cont.)

• Femoral Aneurysm - Repair
• Graft-enteric Fistula - Management
• Infrapopliteal Bypass
• Infrarenal and Aortoiliac Aneurysm - Repair
• Mesenteric Occlusive Disease - Operation
• Popliteal Aneurysm - Repair
• Pseudoaneurysm - Repair
• Superior Mesenteric Artery Embolectomy/Thrombectomy
• Suprarenal Abdominal Aortic Aneurysm - Repair
• Ultrasound in the Diagnosis and Management of Vascular Diseases
19. Vascular – Venous

Diseases/Conditions

CORE
• Thrombophlebitis
• Varicose Veins
• Venous Stasis/Chronic Venous Insufficiency
• Venous Thromboembolism

Operations/Procedures

CORE
• Sclerotherapy - Peripheral Vein
• Vena Caval Filter - Insertion
• Venous Insufficiency/Varicose Veins - Operation
Diseases/Conditions

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

Operations/Procedures

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

Diseases/Conditions

ADVANCED

• 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
- 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
23. Pediatric Surgery

Diseases/Conditions

**CORE**
- Abdominal Mass
- Abdominal Pain - Acute
- Appendicitis
- Gastrointestinal Bleeding - Lower
- Hypertrophic Pyloric Stenosis
- Inguinal Hernia
- Intussusception
- Malrotation
- Meckel's Diverticulum
- Umbilical Hernia

**ADVANCED**
- Biliary Atresia
- Choledochal Cysts
- Congenital Aganglionosis (Hirschsprung’s Disease)
- Congenital Diaphragmatic Hernia
- Cryptorchidism
- Duodenal Atresia/Stenosis
- Esophageal Atresia/Tracheoesophageal Fistula
- Gastroschisis/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**

- 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
24. Plastic Surgery

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
26. Gynecology and Obstetrics

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
- Surgical Considerations of the Pregnant Patient

**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

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
Abdominal Pain - Chronic
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
Bile Duct Neoplasms
Cholangitis
Cholecystitis - Acalculous
Cholecystitis - Acute and Chronic
Choledochal Cyst
Choledocholithiasis
Gallbladder Cancer
Gallbladder Polyps
Gallstone Ileus
Jaundice - Obstructive
Pancreatitus - Biliary

Abdomen - Liver
Hepatic Abscess
Hepatic Mass - Evaluation
Hepatic Neoplasms - Benign
Hepatic Neoplasms - Malignant
Hepatic Neoplasms - Metastatic

Abdomen - Pancreas
Pancreatic Neoplasms - Cystic
Pancreatic Neoplasms - Endocrine
Pancreatic Neoplasms - Exocrine
Pancreatic Pseudocyst
Pancreatitus - Acute/Pancreatic Necrosis/Abscess

Abdomen - Spleen
Idiopathic Thrombocytopenic Purpura
Postsplenectomy Sepsis

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

Alimentary Tract - Stomach
Gastric Bezoars and Foreign Bodies
Gastric Adenocarcinoma
Gastrointestinal Bleeding - Upper
GIST and Miscellaneous Neoplasms
Morbid Obesity
Peptic Ulcer Disease
Stress Gastritis
**Diseases/Conditions - CORE (cont.)**

**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 Crohn’s Disease - Surgical Management
- Small Intestinal Obstruction
- Small Intestinal Polyps

**Alimentary Tract - Large Intestine**
- Appendiceal Neoplasms
- Appendicitis
- C. difficile Colitis
- Colitis - Ischemic
- Colon Cancer
- 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 - Paget’s Disease of the Nipple
- Breast Cancer During Pregnancy and Lactation
- Breast Mass
- Breast Pain
- Ductal Carcinoma In Situ
- Mammographic Abnormalities
- Nipple Discharge
- Phyllodes Tumor
**Diseases/Conditions - Core** (cont.)

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

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

**Surgical Critical Care**
- Abdominal Compartment Syndrome
- Anaphylaxis
- ARDS and Respiratory Failure
- Brain Death
- Cardiac Arrhythmias - Common
- Cardiac Failure
- Cardiogenic Shock
- Derangements of Electrolytes and Acid-Base Balance
- Endocrine Dysfunction
- 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
- 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 Injury
- Pancreatic and Duodenal Injury
- Pediatric Trauma
- Pelvic Fractures
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Trauma (cont.)
- 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

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
- Varicose Veins
- Venous Stasis/Chronic Venous Insufficiency
- Venous Thromboembolism

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

Thoracic Surgery
- Pleural Effusion/Empyema
- Pneumothorax

Pediatric Surgery
- Abdominal Mass
- Abdominal Pain - Acute
- Appendicitis
- Gastrointestinal Bleeding - Lower
- Hypertrophic Pyloric Stenosis
- Inguinal Hernia
- Intussusception
- Malrotation
- Meckel's Diverticulum
- Umbilical Hernia

Genitourinary
- Hydrocele

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

Head and Neck
- Neck Mass - Evaluation
- Upper Airway Obstruction
DISEASES/CONDITIONS - ADVANCED

Abdomen - General
Ascites - Chylous
Mesenteric Cyst
Peritoneal Neoplasms - Carcinomatosis
Peritoneal Neoplasms - Pseudomyxoma peritonei

Abdomen - Biliary
Ampullary Stenosis/Sphincter of Oddi Dysfunction
Primary Sclerosing Cholangitis

Abdomen - Liver
Budd-Chiari Syndrome
Cirrhosis/Portal Hypertension (Ascites)
Esophageal Varices

Abdomen - Pancreas
Intraductal Papillary Mucinous Neoplasms
Pancreas Divisum
Pancreatitis - Autoimmune
Pancreatitis - Chronic (Including Hereditary Pancreatitis)/
Pancreatic Insufficiency

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

Alimentary Tract - Esophagus
Esophageal Caustic Ingestion and Foreign Bodies
Esophageal Diverticula
Esophageal Motility Disorders other than Achalasia
Esophageal Perforation - Spontaneous

Alimentary Tract - Stomach
Gastroparesis
Postgastrectomy Syndromes

Alimentary Tract - Small Intestine
Enteric Infections/Blind Loop Syndrome
Short Bowel Syndrome
Small Intestinal Adenocarcinoma

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

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

Endoscopy
Aerodigestive Tract Foreign Bodies

Breast
Postmastectomy Reconstruction Options

Endocrine
Adrenal Cancer
Multiple Endocrine Neoplasias
Parathyroid Cancer

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

Surgical Critical Care
Organ Donors and Selection Criteria

Trauma
Animal and Insect Bites and Stings
Brachial Plexus Injury
Extremity Fractures and Traumatic Amputations
Head Injury - Penetrating and Closed
Human Bites

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Trauma (cont.)
Smoke Inhalation Injury and Carbon Monoxide Poisoning
Spine Fracture
Sprains, Strains, and Dislocations
Tracheal and Bronchial Injury
Urethral Injury

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

Transplantation
Organ Preservation
Post-Transplant Malignancies

Thoracic Surgery
Chylothorax
Lung Cancer
Mediastinal Tumors and Cysts
Mediastinitis
Metastatic Tumors of the Lung
Superior Vena Cava Syndrome
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/Omphalocele
Imperforate Anus
Intestinal Atresia/Meconium Ileus
Necrotizing Enterocolitis
Neuroblastoma
Wilms Tumor

Genitourinary
Genitourinary Neoplasms
Obstructive Uropathy and Urolithiasis
Ureteral Injury - iatrogenic

Gynecology and Obstetrics
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
Abdomen - General
Diagnostic Laparoscopy
Intra-abdominal Abscess - Drainage
Peritoneal Dialysis Catheter Insertion
Peritoneal Lesion - Biopsy

Abdomen - Hernia
Diaphragmatic Hernia - Repair
Inguinal and Femoral Hernia - Repair
Miscellaneous Hernias - Repair
Ventral Hernia - Repair

Abdomen - Biliary
Cholecystectomy with or without Cholangiography
Cholecystostomy
Choledochoenteric Anastomosis
Choledochoscopy
Common Bile Duct Exploration - Laparoscopic
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

Alimentary Tract - Stomach
Gastroduodenal Perforation - Repair
Gastroectomy - Partial/Total
Gastrostomy
Vagotomy and Drainage

Alimentary Tract - Small Intestine
Adhesiolysis
Feeding Jejunostomy
Ileostomy
Ileostomy Closure
Small Intestinal Resection

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

Alimentary Tract - Anorectal
Anal Fistulotomy/Seton Placement
Anal Sphincterotomy - Internal
Anorectal Abscess - Drainage
Bandaging 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

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
Paracentesis
Pulmonary Artery Catheter Placement
Thoracentesis
Ultrasound Use for Intravascular Access

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

Vascular - Arterial Disease
Amputations - Lower Extremity
Embolectomy/Thrombectomy - Arterial
Femoral-popliteal Bypass

Vascular - Venous
Sclerotherapy - Peripheral Vein
Vena Caval Filter - Insertion
Venous Insufficiency/Varicose Veins - Operation

Vascular - Access
Arteriovenous Graft/Fistula
Vascular Exposure Principles
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
- Orchietomy

Gynecology and Obstetrics
- Hysterectomy
- Salpingo-oophorectomy
- Surgical Considerations of the Pregnant Patient

Head and Neck
- Cricothyroidotomy
- Lymph Node Biopsy
- Tracheostomy

Nervous System
- Nerve Block - Digital
- Nerve Block - Intercostal
**Abdomen - Hernia**
Abdominal Wall Reconstruction - Components Separation

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

**Abdomen - Liver**
Hepatic Ultrasound - Intraoperative
Segmentectomy/Lobectomy - Laparoscopic
Segmentectomy/Lobectomy - Open

**Abdomen - Pancreas**
Ampullary Resection for Tumor
Pancreatectomy - Frey and Beger Procedures
Pancreatectomy - Total
Pancreatic Ultrasound - Intraoperative
Pancreatectoduodenectomy
Pancreaticojejunostomy - Longitudinal

**Alimentary Tract - Esophagus**
Cricopharyngeal Myotomy with Zenker’s Diverticulum - Excision
Esophageal Perforation - Repair/Resection
Esophagectomy/Esophagogastrectomy
Esophagomyotomy (Heller)
Paraesophageal Hernia - Laparoscopic Repair
Paraesophageal Hernia - Open Repair

**Alimentary Tract - Stomach**
Morbid Obesity - Operations
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**
Anal Cancer - Excision
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
Ultrasound of the Thyroid

**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
Escharotomy for Burn Injury
Hepatic Injury - Resection
Tendon - Repair
Vascular - Arterial Disease
- Abdominal Aortic Aneurysm - Endovascular/Open Repair
- Aortofemoral Bypass
- Arterial Occlusive Disease - Endarterectomy
- Carotid Endarterectomy
- Endovascular Intervention Principles
- Extra-anatomic Bypass
- Femoral Aneurysm - Repair
- Graft-enteric Fistula - Management
- Infrapopliteal Bypass
- Infrarenal and Aortoiliac Aneurysm - Repair
- Mesenteric Occlusive Disease - Operation
- Popliteal Aneurysm - Repair
- Pseudoaneurysm - Repair
- Superior Mesenteric Artery Embolectomy/Thrombectomy
- Suprarenal Abdominal Aortic Aneurysm - Repair
- Ultrasound in the Diagnosis and Management of Vascular Diseases

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
- 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/Gastrochisis - Repair
- Orchiopexy
- Thyroglossal Duct Cyst - Excision

Gynecology and Obstetrics
- 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
- Pain, Acute - Management
- Pain, Chronic - 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
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

• Host Defense and Infection
• Infection Control – Avoiding Risk to Self and Others
• Infections – Bacterial, Common
• Infections – Diagnostic Approach
• Infections – Fungal, Common
• Infections – Healthcare-acquired
• Infections – Opportunistic
• Infections – Viral, Common
• Intraabdominal Abscess
• Intraabdominal Infections
• Pathophysiology of Sepsis
• Perioperative Antimicrobial Prophylaxis
• Preoperative Assessment and Management of Coexisting Infection
• Principles of Antimicrobial Resistance
• Sepsis/SIRS Syndrome
### 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
- Nutritional Assessment
- Nutritional Pharmacology and Immunonutrition
- Nutritional Requirements
- Nutritional Support – Long-Term

### 9. Oncology and Tumor Biology
- Chemotherapy - Principles
- Genetic Susceptibility
- Radiation Therapy - Principles
- Screening and Biomarkers
- Tumor Immunology

### 10. 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
- Postoperative Pain Management
- Preoperative Assessment and Management of Cardiac Risk
- Preoperative Assessment and Management of Pulmonary Risk
- Prophylaxis for Venous Thromboembolism
11. 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

12. 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?
1. Non-Technical Skills for Surgeons (NOTSS)

- Cognitive Skills (Situation Awareness and Decision Making)
- Social Skills (Communication, Teamwork and Leadership)

2. 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
- Giving and Getting Feedback
- Managing Your Career - Making the Professional and Personal Choices that will Define You
- Medical Errors and Apology
- Safe Handoff of Patient Care Duties
- 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. Quality Improvement

- Inspiring a Healthy Culture for Patient Care
- Local Engagement in Quality Improvement
- Problem-Based Quality Improvement
- Understanding the Data and Methods to Evaluate Performance
1. Systems-Based Practice

- Advocating for Quality Patient Care
- Coordinating Patient Care
- Cost Awareness and Risk-Benefit Analysis
- Identifying Systems Errors - Root Cause Analysis
- Working Effectively in Various Healthcare Delivery Settings and Systems
- Working in Interprofessional Teams
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