

GENERAL SURGERY RESIDENCY

# Patient Care Curriculum Outline

2008-2009

Surgical Council on  
Resident Education



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RESIDENCY

**PATIENT CARE  
CURRICULUM  
OUTLINE**

2008-2009



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## **AN INTRODUCTION TO THIS DOCUMENT**

In recent years, there has been a call for a better defined curriculum in general surgery residency training. An important starting point for curriculum development is to answer the question “What do we expect our residents to know and be able to do at the end of their training?” As described by the Accreditation Council for Graduate Medical Education, we expect our graduating residents to be competent in medical knowledge, patient care, and professionalism, among others. In 2004, the General Surgery Residency Committee of the American Board of Surgery (ABS) began to develop a curriculum in general surgery patient care by delineating the specific patient care competencies it expected of graduating general surgery residents. An expert consensus process was used to develop this document, with significant input from the Association of Program Directors in Surgery (APDS) as well as specialty groups.

The patient care competency was chosen as the subject for initial curriculum development because many organizations involved in surgical education felt that this area was the most in need of definition and attention. In the near future, there are plans to develop competency-based curricula in the areas of medical knowledge, professionalism, and others.

The enclosed outline of the patient care curriculum is the first step in curriculum development, not a full curriculum. A full curriculum includes educational content, teaching materials, instructional methods, and assessment. The Surgical Council on Resident Education (SCORE) and its member organizations are currently involved in developing a website for the delivery of instructional content and assessment for the patient care curriculum.

The following patient care curriculum outline has been approved as the basis for full curriculum development by SCORE and the ABS.

## **EXPLANATION OF THE PATIENT CARE CURRICULUM OUTLINE**

This document contains a listing of the patient care topics to be included in a curriculum for a five-year general surgical residency training program. In addition, it specifies in general terms the depth and breadth of training that is expected for each.

This document is not a “curriculum”—it is the basis for a curriculum. SCORE, with the extensive involvement of the APDS Curriculum Committee, is in the process of developing specific learning objectives for each topic. Then instructional material can be identified or developed to support the teaching of each topic. It will also be necessary to develop assessment tools to determine if residents have actually acquired the desired knowledge and skills, and finally the effectiveness of the entire program will have to be regularly evaluated. When all of these have been accomplished, there will be a complete curriculum.

This document should not be viewed as static. A mechanism will be developed to review it on an annual basis in order to introduce new topics as necessary, delete obsolete topics, or change the depth and breadth of teaching of existing topics.

### **Classification System**

The curriculum topics are organized into 28 organ system-based categories. Within each category are diseases/conditions as well as operations/procedures.

The topics are stratified as follows:

#### **DISEASES/CONDITIONS**

Two levels:

- *BROAD* – a graduate should be able to care for all aspects of disease and provide comprehensive management.
- *FOCUSED* – a graduate should be able to make the diagnosis, provide initial management/stabilization, but will not be expected to be able to provide comprehensive management.

## OPERATIONS/PROCEDURES

Three levels:

- *ESSENTIAL – COMMON* – frequently performed operations in general surgery; specific procedure competency is required by end of training (and should be attainable primarily by case volume).
- *ESSENTIAL – UNCOMMON* – rare, often urgent, operations seen in general surgery practice and not typically done in significant numbers by trainees; specific procedure competency required by end of training (but cannot be attained by case volume alone).
- *COMPLEX* – not consistently performed by general surgeons in training and not typically performed in general surgery practice. Generic experience in complex procedures in residency is required but not competence in individual procedures. Some residency programs may provide sufficient experience for competence in some specific procedures.

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# THE CURRICULUM OUTLINE

## CATEGORY 1: ABDOMEN – GENERAL

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### DISEASES/CONDITIONS

#### *BROAD*

- Acute abdominal pain
- Intra-abdominal abscess
- Rectus sheath hematoma
- Mesenteric cyst

#### *FOCUSED*

- Chronic abdominal pain
- Peritoneal neoplasms
  - Carcinomatosis
  - Pseudomyxoma peritonei
- Spontaneous bacterial peritonitis
- Desmoid tumors
- Chylous ascites
- Retroperitoneal fibrosis

### OPERATIONS/PROCEDURES

#### *ESSENTIAL – COMMON*

- Exploratory laparotomy – open
- Exploratory laparotomy – laparoscopic

#### *ESSENTIAL – UNCOMMON*

- Open drainage abdominal abscess

#### *COMPLEX*

- Retroperitoneal lymph node dissection – open
- Retroperitoneal lymph node dissection – laparoscopic
- Operation for pseudomyxoma

## **CATEGORY 2: ABDOMEN – HERNIA**

---

### **DISEASES/CONDITIONS**

#### ***BROAD***

- Inguinal hernia
- Femoral hernia
- Ventral hernia
- Miscellaneous hernias

### **OPERATIONS/PROCEDURES**

#### ***ESSENTIAL – COMMON***

- Repair inguinal/femoral hernia – open
- Repair inguinal/femoral hernia – laparoscopic
- Repair ventral hernia – open
- Repair ventral hernias – laparoscopic

#### ***ESSENTIAL – UNCOMMON***

- Repair miscellaneous hernias

#### ***COMPLEX***

- Component separation abdominal wall reconstruction



## **CATEGORY 3: ABDOMEN – BILIARY**

---

### **DISEASES/CONDITIONS**

#### **BROAD**

- Jaundice
- Cholangitis
- Gallstone disease
  - Acute cholecystitis
  - Chronic cholecystitis
  - Choledocholithiasis
  - Biliary pancreatitis
  - Gallstone ileus
- Acalculous cholecystitis and biliary dyskinesia
- Gallbladder neoplasms
  - Polyps
  - Cancer (incidental)
- Iatrogenic bile duct injury

#### **FOCUSED**

- Gallbladder cancer
- Cancer of the bile ducts
- Choledochal cyst
- Sclerosing cholangitis
- Ampullary stenosis/sphincter of Oddi dysfunction

### **OPERATIONS/PROCEDURES**

#### **ESSENTIAL – COMMON**

- Cholecystectomy with/without cholangiogram
  - open
- Cholecystectomy with/without cholangiogram
  - laparoscopic

#### **ESSENTIAL – UNCOMMON**

- Cholecystostomy
- Common bile duct exploration - open
- Choledochoscopy
- Choledochoenteric anastomosis
- Operation for gallbladder cancer (when found incidentally)
- Repair acute common bile duct injury

#### **COMPLEX**

- Laparoscopic common bile duct exploration

- Operation for gallbladder cancer (planned)
- Operation for bile duct cancer
- Excision choledochal cyst
- Transduodenal sphincteroplasty

## **CATEGORY 4: ABDOMEN – LIVER**

---

### **DISEASES/CONDITIONS**

#### **BROAD**

- Liver mass – evaluation
- Hepatic abscess

#### **FOCUSED**

- Benign neoplasms
  - Hepatic adenoma
  - Focal nodular hyperplasia
  - Hemangioma
  - Miscellaneous
- Malignant neoplasms
  - Hepatocellular carcinoma
  - Cholangiocarcinoma
  - Metastatic
  - Miscellaneous
- Cirrhosis and portal hypertension
  - Ascites
  - Bleeding esophageal varices
  - Hepatic failure and encephalopathy
  - Hepatorenal syndrome
- Viral hepatitis (occupational risk)

### **OPERATIONS/PROCEDURES**

#### **ESSENTIAL – COMMON**

- Needle/wedge biopsy – open
- Needle/wedge biopsy – laparoscopic

#### **ESSENTIAL – UNCOMMON**

- Drainage liver abscess

#### **COMPLEX**

- Segmentectomy/lobectomy – open
- Segmentectomy/lobectomy – laparoscopic
- Intraoperative ultrasound of liver
- Portal-systemic shunt

## **CATEGORY 5: ABDOMEN – PANCREAS**

---

### **DISEASES/CONDITIONS**

#### **BROAD**

- Acute pancreatitis
  - Pancreatic necrosis
  - Pancreatic abscess
  - Pseudocyst

#### **FOCUSED**

- Autoimmune pancreatitis
- Chronic pancreatitis, including hereditary pancreatitis
- Pancreatic insufficiency
- Exocrine neoplasms
  - Ductal adenocarcinoma
  - Acinar cell carcinoma
  - Cystic neoplasms
  - Intraductal papillary mucinous neoplasms
- Other periampullary neoplasms
- Endocrine neoplasms
  - Gastrinoma and Z-E syndrome
  - Insulinoma
  - VIPoma
  - Glucagonoma
  - Somatostatinoma
  - Nonfunctional tumors
- Lymphoma of pancreas

### **OPERATIONS/PROCEDURES**

#### **COMPLEX**

- Pancreaticoduodenectomy
- Total pancreatectomy
- Ampullary resection for tumor
- Distal pancreatectomy
- Longitudinal pancreaticojejunostomy
- Frey procedure
- Beger procedure
- Intraoperative pancreatic ultrasound
- Pancreatic debridement for necrosis – open
- Pancreatic debridement for necrosis – laparoscopic/endoscopic
- Drainage pancreatic pseudocyst

## **CATEGORY 6: ABDOMEN – SPLEEN**

---

### **DISEASES/CONDITIONS**

#### ***BROAD***

- Postsplenectomy sepsis

#### ***FOCUSED***

- Hemolytic anemias
- Idiopathic thrombocytopenic purpura
- Secondary hypersplenism and splenomegaly
- Neoplasms of spleen
- Splenic cysts

### **OPERATIONS/PROCEDURES**

#### ***ESSENTIAL – COMMON***

- Splenectomy for disease – open
- Splenectomy for disease – laparoscopic

#### ***ESSENTIAL – UNCOMMON***

- Partial splenectomy/splenorrhaphy

## **CATEGORY 7: ALIMENTARY TRACT – ESOPHAGUS**

---

### **DISEASES/CONDITIONS**

#### **BROAD**

- Dysphagia
- Gastroesophageal reflux and Barrett's esophagus
- Hiatal hernia
- Esophageal perforation
  - Spontaneous
  - Iatrogenic
- Mallory-Weiss syndrome

#### **FOCUSED**

- Achalasia
- Diverticula
  - Zenker's
  - Epiphrenic
- Foreign bodies
- Schatzki's ring
- Chemical burns (ingestion)
- Benign neoplasms
- Malignant neoplasms
  - Adenocarcinoma
  - Squamous cell carcinoma
- Other motility disorders
  - Diffuse esophageal spasm
  - Nutcracker esophagus
  - Presbyesophagus
  - Scleroderma connective tissue disorders

### **OPERATIONS/PROCEDURES**

#### **ESSENTIAL – COMMON**

- Laparoscopic antireflux procedure

#### **ESSENTIAL – UNCOMMON**

- Open antireflux procedure
- Open repair of paraesophageal hernia
- Laparoscopic repair of paraesophageal hernia
- Repair/resection of perforated esophagus

#### **COMPLEX**

- Esophagectomy, total

- Esophagogastrectomy
- Cricopharyngeal myotomy with excision  
Zenker's diverticulum
- Heller myotomy – open
- Heller myotomy – laparoscopic
- Collis gastroplasty

## **CATEGORY 8: ALIMENTARY TRACT – STOMACH**

---

### **DISEASES/CONDITIONS**

#### **BROAD**

- Upper GI bleeding
- Peptic ulcer disease
  - H. pylori infection
  - Duodenal ulcer
  - Gastric ulcer
  - Bleeding
  - Perforation
  - Obstruction
- Gastric neoplasms
  - Polyps
  - Carcinoma
  - Lymphoma
  - Carcinoid
- Stress gastritis

#### **FOCUSED**

- Morbid obesity
- Bezoars and foreign bodies
- Gastroparesis
- Postgastrectomy syndromes

### **OPERATIONS/PROCEDURES**

#### **ESSENTIAL – COMMON**

- Percutaneous endoscopic gastrostomy
- Open gastrostomy

#### **ESSENTIAL – UNCOMMON**

- Partial/total gastrectomy
- Repair duodenal perforation
- Truncal vagotomy and drainage

#### **COMPLEX**

- Operation for morbid obesity – open
- Operation for morbid obesity – laparoscopic
- Laparoscopic gastric resection
- Proximal gastric vagotomy
- Revisional procedures for postgastrectomy syndromes



## **CATEGORY 9: ALIMENTARY TRACT – SMALL INTESTINE**

---

### **DISEASES/CONDITIONS**

#### **BROAD**

- Small bowel obstruction and ileus
- Meckel's diverticulum
- Crohn's disease (emergent management)
- Radiation enteritis
- Small bowel neoplasms
  - Polyps
  - Adenocarcinoma
  - Lymphoma
  - Carcinoid
  - GISTs
- Intussusception
- Malrotation
- Pneumatosis
- Acute mesenteric ischemia (arterial/venous/nonocclusive)

#### **FOCUSED**

- Short bowel syndrome
- Enteric infections and blind loop syndrome

### **OPERATIONS/PROCEDURES**

#### **ESSENTIAL – COMMON**

- Small bowel resection – open
- Adhesiolysis – open
- Adhesiolysis – laparoscopic
- Ileostomy
- Ileostomy closure
- Feeding jejunostomy – open
- Feeding jejunostomy – laparoscopic

#### **ESSENTIAL – UNCOMMON**

- Superior mesenteric artery embolectomy/thrombectomy

#### **COMPLEX**

- Stricturoplasty for Crohn's disease

## **CATEGORY 10: ALIMENTARY TRACT – LARGE INTESTINE**

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### **DISEASES/CONDITIONS**

#### ***BROAD***

- Lower GI bleeding
- Large bowel obstruction
- Acute appendicitis
- Diverticular disease
  - Diverticulitis
  - Diverticular bleeding
  - Fistulae
- Volvulus
- Colonic neoplasms
  - Polyps
  - Colorectal cancer
  - Miscellaneous
- Neoplasms of appendix
- Inflammatory bowel disease (emergent management)
  - Ulcerative colitis
  - Indeterminate colitis
- Ischemic colitis
- Antibiotic-induced colitis

#### ***FOCUSED***

- Endometriosis
- Irritable bowel syndrome
- Functional constipation
- Infectious colitis

### **OPERATIONS/PROCEDURES**

#### ***ESSENTIAL – COMMON***

- Appendectomy – open
- Appendectomy – laparoscopic
- Partial colectomy – open
- Partial colectomy – laparoscopic
- Colostomy
- Colostomy closure

**ESSENTIAL – UNCOMMON**

- Subtotal colectomy with ileorectal anastomosis/ileostomy

**COMPLEX**

- Total proctocolectomy and ileoanal pull-through

# **CATEGORY 11: ALIMENTARY TRACT – ANORECTAL**

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## **DISEASES/CONDITIONS**

### **BROAD**

- Hemorrhoids
- Anal fissure
- Anorectal abscess and fistulae
- Anal cancer
- Rectal cancer

### **FOCUSED**

- Pelvic floor dysfunction
- Incontinence
- Anal dysplasia/sexually-transmitted disease
- Rectal prolapse

## **OPERATIONS/PROCEDURES**

### **ESSENTIAL – COMMON**

- Banding for internal hemorrhoids
- Hemorrhoidectomy
- Subcutaneous lateral internal sphincterotomy
- Drainage anorectal abscess
- Anal fistulotomy/seton placement

### **ESSENTIAL – UNCOMMON**

- Excision of anal cancer

### **COMPLEX**

- Stapled hemorrhoidectomy
- Repair complex anorectal fistulae
- Operation for incontinence/constipation
- Transabdominal operation for rectal prolapse  
– open
- Transabdominal operation for rectal prolapse  
– laparoscopic
- Perineal operation for rectal prolapse
- Operations for rectal cancer
  - Transanal resection
  - Abdominoperineal resection
  - Pelvic exenteration

## **CATEGORY 12: ENDOSCOPY**

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### **OPERATIONS/PROCEDURES**

#### ***ESSENTIAL – COMMON***

- Esophagogastroduodenoscopy
- Proctoscopy
- Colonoscopy with or without biopsy/polypectomy
- Bronchoscopy
- Laryngoscopy

#### ***COMPLEX***

- Mediastinoscopy
- Cystoscopy
- ERCP

## **CATEGORY 13: BREAST**

---

### **DISEASES/CONDITIONS**

#### **BROAD**

- Breast mass
- Nipple discharge
- Benign disease
  - Fibroadenoma
  - Fibrocystic disease
  - Fat necrosis
  - Mastitis and abscess
  - Galactocoele
  - Mondor's disease
  - Intraductal papilloma
  - Gynecomastia
  - Invasive ductal carcinoma
  - Ductal carcinoma in situ
  - Invasive lobular carcinoma
  - Lobular carcinoma in situ
  - Inflammatory cancer
  - Paget's disease of the nipple
  - Cystosarcoma phyllodes
- Breast cancer during pregnancy and lactation
- Occult breast cancer with axillary metastasis
- Male breast cancer

### **OPERATIONS/PROCEDURES**

#### **ESSENTIAL – COMMON**

- Aspiration of breast cyst
- Duct excision
- Breast biopsy with or without needle localization
- Lumpectomy/quadrantectomy
- Simple mastectomy
- Skin-sparing mastectomy
- Axillary dissection
- Sentinel lymph node biopsy
- Modified radical mastectomy

#### **ESSENTIAL – UNCOMMON**

- Radical mastectomy

#### **COMPLEX**

- Stereotactic breast biopsy

## **CATEGORY 14: ENDOCRINE**

---

### **DISEASES/CONDITIONS**

#### **BROAD**

- Thyroid nodule(s)
- Hypothyroidism (postoperative)
- Papillary carcinoma of thyroid
- Follicular carcinoma of thyroid
- Hypercalcemia
- Hypocalcemia
- Primary hyperparathyroidism
- Addisonian crisis
- Hyperthyroidism

#### **FOCUSED**

- Thyroiditis
- Uncommon thyroid cancers
  - Medullary
  - Hurthle cell
  - Anaplastic
- Hyperparathyroidism
  - Secondary
  - Tertiary
- Recurrent or persistent hyperparathyroidism
- Parathyroid carcinoma
- Multiple endocrine neoplasias
  - MENI
  - MENIIA
  - MENIIB
- Incidental adrenal mass
- Pheochromocytoma
- Primary hyperaldosteronism
- Hypercortisolism
  - Cushing's syndrome
  - Cushing's disease
- Adrenocortical carcinoma

### **OPERATIONS/PROCEDURES**

#### **ESSENTIAL – COMMON**

- Partial or total thyroidectomy
- Parathyroidectomy

#### **COMPLEX**

- Adrenalectomy – open
- Adrenalectomy – laparoscopic

## **CATEGORY 15: SKIN AND SOFT TISSUE**

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### **DISEASES/CONDITIONS**

#### **BROAD**

- Nevi
- Melanoma
- Squamous cell carcinoma
- Basal cell carcinoma
- Evaluation of soft tissue masses
- Epidermal cyst
- Tumors of dermal adnexae
  - Apocrine tumor
  - Eccrine tumor
  - Sebaceous tumor
  - Merkel cell tumor
- Dermatofibrosarcoma
- Skin and soft tissue infections
  - Hidradenitis
  - Cellulitis
  - Necrotizing fasciitis
- Hand infections
  - Paronychia
  - Felon
- Wound infections
- Pilonidal cyst and sinus

#### **FOCUSED**

- Decubitus ulcer
- Soft tissue sarcomas
  - Extremity
  - Retroperitoneal
- Lymphedema

### **OPERATIONS/PROCEDURES**

#### **ESSENTIAL – COMMON**

- Biopsy (excisional and incisional) skin/soft tissue lesions
- Incision, drainage, debridement for soft tissue infections
- Pilonidal cystectomy

#### **ESSENTIAL – UNCOMMON**

- Wide local excision melanoma



- Sentinel lymph node biopsy for melanoma

**COMPLEX**

- Ilioinguinal – femoral lymphadenectomy
- Major resection for soft tissue sarcoma

## **CATEGORY 16: SURGICAL CRITICAL CARE**

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### **DISEASES/CONDITIONS**

#### ***BROAD (NOT AS BROAD AS SPECIALIST)***

- Shock
  - Hypovolemic
  - Septic
  - Cardiogenic
  - Neurogenic
- Systems dysfunction and failure
  - Respiratory
  - Cardiac
  - Gastrointestinal
  - Hepatic
  - Renal
  - Coagulopathy
  - Neurologic
  - Endocrine
- Derangements of electrolytes and acid-base
- Anaphylaxis
- Pneumonia – hospital acquired

### **OPERATIONS/PROCEDURES**

#### ***ESSENTIAL – COMMON***

- Arterial line placement
- Central venous line placement
- Swan Ganz catheter placement
- Endotracheal intubation

## **CATEGORY 17: TRAUMA**

---

### **DISEASES/CONDITIONS**

#### **BROAD**

- Blunt trauma
- Penetrating trauma
- Neck injuries
  - Vascular
  - Trachea/Larynx
  - Pharynx/esophagus
  - Nerve
- Chest injuries
  - Rib fractures
  - Sternal fractures
  - Flail chest
  - Pneumothorax
  - Hemothorax
  - Pulmonary contusion
  - Pulmonary laceration
  - Myocardial contusion
  - Cardiac tamponade
  - Esophageal injury
- Abdominal injuries
  - Diaphragm
  - Spleen
  - Liver
  - Stomach
  - Duodenum
  - Pancreas
  - Small intestine
  - Colon and rectum
- Retroperitoneal injuries
  - Retroperitoneal hematoma
  - Pelvic fractures
  - Renal injuries
  - Bladder injuries
  - Ureteral injuries
- Vascular injuries
  - Head/neck
  - Thorax
  - Abdomen
  - Extremity

- Pediatric trauma
- Geriatric trauma
- Trauma in pregnancy

### **FOCUSED**

- Head injury
  - Closed
  - Penetrating
- Tracheobronchial injuries
- Aortic Injuries
- Urethral injuries
- Orthopedic and spinal injuries
  - Spine fracture
  - Pelvic fracture
  - Extremity fractures
  - Dislocations
  - Sprains and strains
  - Mangle and traumatic amputation
- Envenomation
  - Snakes and lizards
  - Spiders
  - Hymenoptera
  - Scorpions
- Animal and human bites
- Environmental injuries
  - Hypothermia
  - Frostbite
- Burns
  - Flame burns
  - Scald burns
  - Electrical burns
  - Chemical burns
  - Inhalation injury
  - Carbon monoxide poisoning

### **OPERATIONS/PROCEDURES**

#### **ESSENTIAL – UNCOMMON**

- Management of esophageal trauma
- Management of gastric trauma
- Management of duodenal trauma
- Management of small bowel trauma
- Management of colon trauma

- Neck exploration for trauma
- Exploratory thoracotomy – open
- Exploratory laparotomy – open
- Exploratory laparotomy – laparoscopic
- Splenectomy/splenorrhaphy
- Repair hepatic lacerations
- Drainage pancreatic injury
- Debride/suture major wounds
- Repair/resection for kidney trauma
- Repair ureteral injury
- Repair bladder injury
- Repair of carotid artery injury
- Repair of abdominal aorta or vena cava injury
- Repair peripheral vessels
- Fasciotomy for injury
- Repair cardiac injury

**COMPLEX**

- Burn debridement or grafting
- Placement of intracranial pressure monitor
- Reduction and stabilization of maxillofacial fracture
- Repair of tendon or nerve
- Hepatic resection for injury
- Resection for pancreatic injury
- Closed reduction of fracture
- Open reduction of open/closed fracture
- Debridement and reduction of open fracture
- Repair of thoracic aorta, innominate, subclavian injury

## **CATEGORY 18: VASCULAR – ARTERIAL DISEASE**

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### **DISEASES/CONDITIONS**

#### **BROAD**

- Acute limb ischemia
- Thromboembolic disease
  - Peripheral arterial emboli
  - Acute arterial thrombosis
- Compartment syndromes
- Diabetic foot infections

#### **FOCUSED**

- Arterial occlusive disease
  - Cerebrovascular occlusive disease
  - Aortoiliac disease
  - Chronic visceral occlusive disease
  - Renal artery occlusive disease
  - Femoropopliteal occlusive disease
  - Infrapopliteal occlusive disease
  - Upper extremity occlusive disease
  - Buerger disease
  - Fibromuscular dysplasia
  - Cystic medial necrosis
  - Behcet disease
- Arterial aneurysms
  - Aortic
  - Visceral
  - Peripheral arterial
- Aortic dissection
- Claudication
- Hypercoagulable syndromes
- Carotid body tumors
- Vascular graft infections
- Aortic thrombosis
- Thoracic outlet syndrome

### **OPERATIONS/PROCEDURES**

#### **ESSENTIAL – UNCOMMON**

- Embolectomy/thrombectomy artery
- Amputations
  - Above knee

- Below knee
- Toe

## **COMPLEX**

- Arterial occlusive disease
  - Aorto-iliac/femoral bypass
  - Ilio-iliac/femoral bypass
  - Femoral-popliteal bypass
  - Profunda endarterectomy
  - Infrapopliteal bypass
  - Other endarterectomy
  - Composite leg bypass graft
  - Revise/re-do lower extremity bypass
  - Arm bypass, endarterectomy, repair
  - Celiac/SMA endarterectomy/bypass
  - Renal endarterectomy/bypass
  - Femoral-femoral bypass
  - Axillo-femoral bypass
  - Axillo-popliteal-tibial bypass
- Amputation
  - Transmetatarsal
  - Upper extremity
  - Disarticulation
- Arterial aneurysm
  - Infrarenal aortoiliac
  - Femoral aneurysm
  - Popliteal aneurysm
  - Suprarenal abdominal aortic
  - Thoracoabdominal
  - Thoracic aortic
- Cerebrovascular disease
  - Carotid endarterectomy
  - Reoperative carotid surgery
  - Excise carotid body tumor
  - Direct repair aortic arch branches
  - Vertebral artery operation
- Endovascular
  - Vascular ultrasound
  - Angioscopy
  - Balloon angioplasty
  - Transcatheter stent
  - Other endovascular graft
  - Endovascular repair aortic aneurysm

- Endovascular repair other aneurysm
- Thrombolysis
- Miscellaneous
  - Pseudoaneurysm repair/injection
  - Explore post-op bleed, thrombosis, infection
  - Graft thrombectomy/revision
  - Excise infected vascular graft
  - Repair graft-enteric fistula
  - Sympathectomy
  - Harvest arm vein
  - Thoracic outlet decompression



## **CATEGORY 19: VASCULAR – VENOUS**

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### **DISEASES/CONDITIONS**

#### **BROAD**

- Venous thrombosis/embolism
- Thrombophlebitis, including suppurative
- Venous stasis and chronic venous insufficiency
- Varicose veins

### **OPERATIONS/PROCEDURES**

#### **ESSENTIAL – COMMON**

- Operation for varicose veins
- Sclerotherapy, peripheral vein
- Insertion vena caval filter

#### **COMPLEX**

- Venous embolectomy/thrombectomy
- Venous reconstruction
- Non-reconstructive venous ulcer operation
- Repair A-V malformation

## **CATEGORY 20: VASCULAR – ACCESS**

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### **DISEASES/CONDITIONS**

#### ***BROAD***

- Vascular access for dialysis

### **OPERATIONS/PROCEDURES**

#### ***ESSENTIAL – COMMON***

- Percutaneous vascular access
- A-V graft/fistula
- Revision A-V access

## **CATEGORY 21: TRANSPLANTATION**

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### **DISEASES/CONDITIONS**

#### ***FOCUSED***

- Immunosuppression

### **OPERATIONS/PROCEDURES**

#### ***COMPLEX***

- Donor nephrectomy
- Donor hepatectomy
- Renal transplant
- Renal-pancreas transplant
- En bloc abdominal organ retrieval
- Liver transplant
- Pancreas transplant

## **CATEGORY 22: THORACIC SURGERY**

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### **DISEASES/CONDITIONS**

#### **BROAD**

- Pneumothorax
- Hemothorax
- Pleural effusion/empyema
- Cardiac tamponade

#### **FOCUSED**

- Mediastinitis
- Chylothorax
- Lung cancer
  - Adenocarcinoma
  - Undifferentiated carcinoma
  - Small cell
  - Large cell
- Soft tissue sarcomas of chest wall
- Mediastinal tumors and cysts
  - Thymoma
  - Teratoma
  - Neurogenic tumor
  - Enteric cyst
  - Pericardial cyst
  - Bronchogenic cyst
- Superior vena cava syndrome
- Tracheoinnominate fistula
- Tracheoesophageal fistula
- Valvular heart disease
- Congestive heart failure
- Endocarditis
- Coronary artery disease
- Ventricular aneurysms
- Cardiomyopathy
- Pericarditis

### **OPERATIONS/PROCEDURES**

#### **ESSENTIAL – COMMON**

- Chest tube placement

#### **ESSENTIAL – UNCOMMON**

- Exploratory thoracotomy
- Pericardial window for drainage

**COMPLEX**

- Thoracoscopy with or without biopsy
- Thoracoscopic pleurodesis
- Thoracoscopic esophagomyotomy (Heller)
- Excision mediastinal tumor
- Transthoracic repair diaphragmatic hernia
- Open drainage of empyema
- Pneumonectomy
- Cardiac procedures
- Pericardiectomy
- Pacemaker insertion

## **CATEGORY 23: PEDIATRIC SURGERY**

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### **DISEASES/CONDITIONS**

#### ***BROAD***

- Umbilical hernia
- Inguinal hernia
- Malrotation
- Hypertrophic pyloric stenosis
- Intussusception
- Meckel's diverticulum

#### ***FOCUSED***

- Gastroschisis
- Omphalocele
- Esophageal atresia
- Tracheoesophageal fistula
- Foreign bodies of the trachea/esophagus
- Congenital diaphragmatic hernia
- Duodenal atresia/stenosis
- Pancreas divisum
- Intestinal atresia and meconium ileus
- Imperforate anus
- Necrotizing enterocolitis
- Congenital agangliosis (Hirschsprung's disease)
- Biliary atresia
- Choledochal cysts
- Cryptorchidism
- Wilms tumor
- Neuroblastoma

### **OPERATIONS/PROCEDURES**

#### ***ESSENTIAL – COMMON***

- Inguinal hernia repair
- Umbilical hernia repair

#### ***ESSENTIAL – UNCOMMON***

- Pyloromyotomy
- Emergency operation for malrotation
- Emergency operation for intussusception

## **COMPLEX**

- Excise branchial cleft anomaly
- Excise thyroglossal duct cyst
- Orchiopexy
- Antireflux procedure – open
- Antireflux procedure – laparoscopic
- Repair intestinal atresia/stenosis
- Repair diaphragmatic hernia
- Repair omphalocele/gastroschisis
- Procedure for meconium ileus/necrotizing enterocolitis
- Excision Wilms tumor/neuroblastoma
- Operation for Hirschsprung's/imperforate anus
- Repair esophageal atresia/tracheoesophageal fistula
- Repair deformity chest wall

## **CATEGORY 24: PLASTIC SURGERY**

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### **DISEASES/CONDITIONS**

#### ***FOCUSED***

- Aesthetic surgery
  - Abdomen
  - Breast
- Postmastectomy reconstruction
- Abdominal wall reconstruction

### **OPERATIONS/PROCEDURES**

#### ***ESSENTIAL – COMMON***

- Skin grafting

#### ***COMPLEX***

- Revision of scars and resultant deformities
- Composite tissue transfer
- Major reconstructive procedures



## **CATEGORY 25: GENITOURINARY**

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### **DISEASES/CONDITIONS**

#### ***FOCUSED***

- Ureteral injury (iatrogenic)
- Bladder dysfunction
  - Neurogenic
  - Urinary incontinence
- Obstructive uropathy
- Impotence
- Neoplasms
  - Bladder
  - Ureter
  - Renal cell carcinoma
  - Prostate
  - Testicle
- Stone disease

### **OPERATIONS/PROCEDURES**

#### ***ESSENTIAL – UNCOMMON***

- Hydrocelectomy
- Nephrectomy
- Orchiectomy
- Cystostomy
- Repair iatrogenic ureteral injury

#### ***COMPLEX***

- Prostatectomy
- Ileal urinary conduit
- Cystectomy

## **CATEGORY 26: GYNECOLOGY**

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### **DISEASES/CONDITIONS**

#### ***BROAD***

- Ectopic pregnancy
- Pelvic inflammatory disease
- Incidental ovarian mass/cyst

#### ***FOCUSED***

- Endometriosis
- Ovarian neoplasms
  - Benign
  - Malignant
- Uterine neoplasms
  - Benign
  - Malignant
- Cystocele
- Rectocele

### **OPERATIONS/PROCEDURES**

#### ***ESSENTIAL – UNCOMMON***

- Hysterectomy
- Salpingo-oophorectomy

#### ***COMPLEX***

- Caesarian section
- Repair cystocele
- Repair rectocele

## **CATEGORY 27: HEAD AND NECK**

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### **DISEASES/CONDITIONS**

#### **BROAD**

- Cervical lymphadenopathy
- Upper airway obstruction

#### **FOCUSED**

- Epistaxis
- Mucosal cancers of the oral cavity
- Mucosal cancers of the pharynx
- Mucosal cancers of the larynx
- Salivary gland tumors
  - Parotid gland
  - Submandibular gland

### **OPERATIONS/PROCEDURES**

#### **ESSENTIAL – COMMON**

- Tracheostomy

#### **ESSENTIAL – UNCOMMON**

- Cricothyroidotomy

#### **COMPLEX**

- Resection of lip/tongue lesions
- Parotidectomy
- Modified radical neck dissection

## **CATEGORY 28: NERVOUS SYSTEM**

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### **DISEASES/CONDITIONS**

#### **BROAD**

- Management of acute pain

#### **FOCUSED**

- Management of chronic pain

### **OPERATIONS/PROCEDURES**

#### **ESSENTIAL – UNCOMMON**

- Digital nerve block

#### **COMPLEX**

- Placement of indwelling epidural catheter
- Placement of nerve stimulator for chronic pain
- Celiac plexus blockade – percutaneous or endoscopic
- Thoracic splanchnicectomy
- Peripheral nerve block(s) other than digital

# DISEASES/CONDITIONS BY LEVEL

## BROAD

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### **Abdomen - General**

Acute abdominal pain  
Intra-abdominal abscess  
Rectus sheath hematoma  
Mesenteric cyst

### **Abdomen - Hernia**

Inguinal hernia  
Femoral hernia  
Ventral hernia  
Miscellaneous hernias

### **Abdomen - Biliary**

Jaundice  
Cholangitis  
Gallstone disease [Acute cholecystitis]  
Gallstone disease [Chronic cholecystitis]  
Gallstone disease [Choledocholithiasis]  
Gallstone disease [Biliary pancreatitis]  
Gallstone disease [Gallstone ileus]  
Acalculous cholecystitis and biliary dyskinesia  
Gallbladder neoplasms [Polyps]  
Gallbladder neoplasms [Cancer (incidental)]  
Iatrogenic bile duct injury

### **Abdomen - Liver**

Liver mass - evaluation  
Hepatic abscess

### **Abdomen - Pancreas**

Acute pancreatitis [Pancreatic necrosis]  
Acute pancreatitis [Pancreatic abscess]  
Acute pancreatitis [Pseudocyst]

### **Abdomen - Spleen**

Postsplenectomy sepsis

### **Alimentary Tract - Esophagus**

Dysphagia  
Gastroesophageal reflux and Barrett's esophagus  
Hiatal hernia  
Esophageal perforation [Spontaneous]  
Esophageal perforation [Iatrogenic]  
Mallory-Weiss syndrome

### **Alimentary Tract - Stomach**

Upper GI bleeding  
Peptic ulcer disease [H. pylori infection]  
Peptic ulcer disease [Duodenal ulcer]  
Peptic ulcer disease [Gastric ulcer]  
Peptic ulcer disease [Bleeding]  
Peptic ulcer disease [Perforation]  
Peptic ulcer disease [Obstruction]  
Gastric neoplasms [Polyps]  
Gastric neoplasms [Carcinoma]  
Gastric neoplasms [Lymphoma]  
Gastric neoplasms [Carcinoid]  
Stress gastritis

### **Alimentary Tract - Small Intestine**

Small bowel obstruction and ileus  
Meckel's diverticulum  
Crohn's disease (emergent management)  
Radiation enteritis  
Small bowel neoplasms [Polyps]  
Small bowel neoplasms [Adenocarcinoma]  
Small bowel neoplasms [Lymphoma]  
Small bowel neoplasms [Carcinoid]  
Small bowel neoplasms [GISTs]  
Intussusception  
Malrotation

Pneumatosis

Acute mesenteric ischemia (arterial/venous/nonocclusive)

### **Alimentary Tract - Large Intestine**

Lower GI bleeding

Large bowel obstruction

Acute appendicitis

Diverticular disease [Diverticulitis]

Diverticular disease [Diverticular bleeding]

Diverticular disease [Fistulae]

Volvulus

Colonic neoplasms [Polyps]

Colonic neoplasms [Colorectal cancer]

Colonic neoplasms [Miscellaneous]

Neoplasms of appendix

Inflammatory bowel disease (emergent management)  
[Ulcerative colitis]

Inflammatory bowel disease (emergent management)  
[Indeterminate colitis]

Ischemic colitis

Antibiotic-induced colitis

### **Alimentary Tract - Anorectal**

Hemorrhoids

Anal fissure

Anorectal abscess and fistulae

Anal cancer

Rectal cancer

### **Breast**

Breast mass

Nipple discharge

Benign disease [Fibroadenoma]

Benign disease [Fibrocystic disease]

Benign disease [Fat necrosis]

Benign disease [Mastitis and abscess]

Benign disease [Galactocoele]

Benign disease [Mondor's disease]

Benign disease [Intraductal papilloma]

Benign disease [Gynecomastia]

Breast cancer [Invasive ductal carcinoma]

Breast cancer [Ductal carcinoma in situ]

Breast cancer [Invasive lobular carcinoma]

Breast cancer [Lobular carcinoma in situ]

Breast cancer [Inflammatory cancer]

Breast cancer [Paget's disease of the nipple]

Breast cancer [Cystosarcoma phyllodes]

Breast cancer during pregnancy and lactation

Occult breast cancer with axillary metastasis

Male breast cancer

### **Endocrine**

Thyroid nodule(s)

Hypothyroidism (postoperative)

Papillary carcinoma of thyroid

Follicular carcinoma of thyroid

Hypercalcemia

Hypocalcemia

Primary hyperparathyroidism

Addisonian crisis

Hyperthyroidism

### **Skin and Soft Tissue**

Nevi

Melanoma

Squamous cell carcinoma

Basal cell carcinoma

Evaluation of soft tissue masses

Epidermal cyst

Tumors of dermal adnexae [Apocrine tumor]

Tumors of dermal adenexae [Eccrine tumor]  
Tumors of dermal adenexae [Sebaceous tumor]  
Tumors of dermal adenexae [Merkel cell tumor]  
Dermatofibrosarcoma  
Skin and soft tissue infections [Hidradenitis]  
Skin and soft tissue infections [Cellulitis]  
Skin and soft tissue infections [Necrotizing fasciitis]  
Hand infections [Paronychia]  
Hand infections [Felon]  
Wound infections  
Pilonidal cyst and sinus

### **Surgical Critical Care**

Shock [Hypovolemic]  
Shock [Septic]  
Shock [Cardiogenic]  
Shock [Neurogenic]  
Systems dysfunction and failure [Respiratory]  
Systems dysfunction and failure [Cardiac]  
Systems dysfunction and failure [Gastrointestinal]  
Systems dysfunction and failure [Hepatic]  
Systems dysfunction and failure [Renal]  
Systems dysfunction and failure [Coagulopathy]  
Systems dysfunction and failure [Neurologic]  
Systems dysfunction and failure [Endocrine]  
Derangements of electrolytes and acid-base  
Anaphylaxis  
Pneumonia - hospital acquired

### **Trauma**

Blunt trauma  
Penetrating trauma  
Neck injuries [Vascular]  
Neck injuries [Trachea/Larynx]  
Neck injuries [Pharynx/esophagus]  
Neck injuries [Nerve]  
Chest injuries [Rib fractures]  
Chest injuries [Sternal fractures]  
Chest injuries [Flail chest]  
Chest injuries [Pneumothorax]  
Chest injuries [Hemothorax]  
Chest injuries [Pulmonary contusion]  
Chest injuries [Pulmonary laceration]  
Chest injuries [Myocardial contusion]  
Chest injuries [Cardiac tamponade]  
Chest injuries [Esophageal injury]  
Abdominal injuries [Diaphragm]  
Abdominal injuries [Spleen]  
Abdominal injuries [Liver]  
Abdominal injuries [Stomach]  
Abdominal injuries [Duodenum]  
Abdominal injuries [Pancreas]  
Abdominal injuries [Small intestine]  
Abdominal injuries [Colon and rectum]  
Retroperitoneal injuries [Retroperitoneal hematoma]  
Retroperitoneal injuries [Pelvic fractures]  
Retroperitoneal injuries [Renal injuries]  
Retroperitoneal injuries [Bladder injuries]  
Retroperitoneal injuries [Ureteral injuries]  
Vascular injuries [Head/neck]  
Vascular injuries [Thorax]  
Vascular injuries [Abdomen]  
Vascular injuries [Extremity]  
Pediatric trauma  
Geriatric trauma  
Trauma in pregnancy

### **Vascular - Arterial Disease**

Acute limb ischemia  
Thromboembolic disease [Peripheral arterial emboli]

Thromboembolic disease [Acute arterial thrombosis]  
Compartment syndromes  
Diabetic foot infections

**Vascular - Venous**

Venous thrombosis/embolism  
Thrombophlebitis, including suppurative  
Venous stasis and chronic venous insufficiency  
Varicose veins

**Vascular - Access**

Vascular access for dialysis

**Thoracic Surgery**

Pneumothorax  
Hemothorax  
Pleural effusion/empyema  
Cardiac tamponade

**Pediatric Surgery**

Umbilical hernia  
Inguinal hernia  
Malrotation  
Hypertrophic pyloric stenosis  
Intussusception  
Meckel's diverticulum

**Gynecology**

Ectopic pregnancy  
Pelvic inflammatory disease  
Incidental ovarian mass/cyst

**Head and Neck**

Cervical lymphadenopathy  
Upper airway obstruction

**Nervous System**

Management of acute pain

**FOCUSED**

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**Abdomen - General**

Chronic abdominal pain  
Peritoneal neoplasms [Carcinomatosis]  
Peritoneal neoplasms [Pseudomyxoma peritoneii]  
Spontaneous bacterial peritonitis  
Desmoid tumors  
Chylous ascites  
Retroperitoneal fibrosis

**Abdomen - Biliary**

Gallbladder cancer  
Cancer of the bile ducts  
Choledochal cyst  
Sclerosing cholangitis  
Ampullary stenosis/sphincter of Oddi dysfunction

**Abdomen - Liver**

Benign neoplasms [Hepatic adenoma]  
Benign neoplasms [Focal nodular hyperplasia]  
Benign neoplasms [Hemangioma]  
Benign neoplasms [Miscellaneous]  
Malignant neoplasms [Hepatocellular carcinoma]  
Malignant neoplasms [Cholangiocarcinoma]  
Malignant neoplasms [Metastatic]  
Malignant neoplasms [Miscellaneous]  
Cirrhosis and portal hypertension [Ascites]  
Cirrhosis and portal hypertension [Bleeding esophageal varices]  
Cirrhosis and portal hypertension [Hepatic failure and encephalopathy]  
Cirrhosis and portal hypertension [Hepatorenal syndrome]  
Viral hepatitis (occupational risk)

**Abdomen - Pancreas**

Autoimmune pancreatitis  
Chronic pancreatitis, including hereditary pancreatitis



Pancreatic insufficiency  
Exocrine neoplasms [Ductal adenocarcinoma]  
Exocrine neoplasms [Acinar cell carcinoma]  
Exocrine neoplasms [Cystic neoplasms]  
Exocrine neoplasms [Intraductal papillary mucinous neoplasms]  
Other periampullary neoplasms  
Endocrine neoplasms [Gastrinoma and Z-E syndrome]  
Endocrine neoplasms [Insulinoma]  
Endocrine neoplasms [VIPoma]  
Endocrine neoplasms [Glucagonoma]  
Endocrine neoplasms [Somatostatinoma]  
Endocrine neoplasms [Nonfunctional tumors]  
Lymphoma of pancreas

### **Abdomen - Spleen**

Hemolytic anemias  
Idiopathic thrombocytopenic purpura  
Secondary hypersplenism and splenomegaly  
Neoplasms of spleen  
Splenic cysts

### **Alimentary Tract - Esophagus**

Achalasia  
Diverticula [Zenker's]  
Diverticula [Epiphrenic]  
Foreign bodies  
Schatzki's ring  
Chemical burns (ingestion)  
Benign neoplasms  
Malignant neoplasms [Adenocarcinoma]  
Malignant neoplasms [Squamous cell carcinoma]  
Other motility disorders [Diffuse esophageal spasm]  
Other motility disorders [Nutcracker esophagus]  
Other motility disorders [Presbyesophagus]  
Other motility disorders [Scleroderma connective tissue disorders]

### **Alimentary Tract - Stomach**

Morbid obesity  
Bezoars and foreign bodies  
Gastroparesis  
Postgastrectomy syndromes

### **Alimentary Tract - Small Intestine**

Short bowel syndrome  
Enteric infections and blind loop syndrome

### **Alimentary Tract - Large Intestine**

Endometriosis  
Irritable bowel syndrome  
Functional constipation  
Infectious colitis

### **Alimentary Tract - Anorectal**

Pelvic floor dysfunction  
Incontinence  
Anal dysplasia/sexually-transmitted disease  
Rectal prolapse

### **Endocrine**

Thyroiditis  
Uncommon thyroid cancers [Medullary]  
Uncommon thyroid cancers [Hurthle cell]  
Uncommon thyroid cancers [Anaplastic]  
Hyperparathyroidism [Secondary]  
Hyperparathyroidism [Tertiary]  
Recurrent or persistent hyperparathyroidism  
Parathyroid carcinoma  
Multiple endocrine neoplasias [MENI]  
Multiple endocrine neoplasias [MENIIA]  
Multiple endocrine neoplasias  
Incidental adrenal mass  
Pheochromocytoma  
Primary hyperaldosteronism  
Hypercortisolism [Cushing's syndrome]

Hypercortisolism [Cushing's disease]  
Adrenocortical carcinoma

### **Skin and Soft Tissue**

Decubitus ulcer  
Soft tissue sarcomas [Extremity]  
Soft tissue sarcomas [Retroperitoneal]  
Lymphedema

### **Trauma**

Head injury [Closed]  
Head injury [Penetrating]  
Tracheobronchial injuries  
Aortic Injuries  
Urethral injuries  
Orthopedic and spinal injuries [Spine fracture]  
Orthopedic and spinal injuries [Pelvic fracture]  
Orthopedic and spinal injuries [Extremity fractures]  
Orthopedic and spinal injuries [Dislocations]  
Orthopedic and spinal injuries [Sprains and strains]  
Orthopedic and spinal injuries [Mangle and traumatic amputation]  
Envenomation [Snakes and lizards]  
Envenomation [Spiders]  
Envenomation [Hymenoptera]  
Envenomation [Scorpions]  
Animal and human bites  
Environmental injuries [Hypothermia]  
Environmental injuries [Frostbite]  
Burns [Flame burns]  
Burns [Scald burns]  
Burns [Electrical burns]  
Burns [Chemical burns]  
Burns [Inhalation injury]  
Burns [Carbon monoxide poisoning]

### **Vascular - Arterial Disease**

Arterial occlusive disease [Cerebrovascular occlusive disease]  
Arterial occlusive disease [Aortoiliac disease]  
Arterial occlusive disease [Chronic visceral occlusive disease]  
Arterial occlusive disease [Renal artery occlusive disease]  
Arterial occlusive disease [Femoropopliteal occlusive disease]  
Arterial occlusive disease [Infrapopliteal occlusive disease]  
Arterial occlusive disease [Upper extremity occlusive disease]  
Arterial occlusive disease [Buerger disease]  
Arterial occlusive disease [Fibromuscular dysplasia]  
Arterial occlusive disease [Cystic medial necrosis]  
Arterial occlusive disease [Behcet disease]  
Arterial aneurysms [Aortic]  
Arterial aneurysms [Visceral]  
Arterial aneurysms [Peripheral arterial]  
Aortic dissection  
Claudication  
Hypercoagulable syndromes  
Carotid body tumors  
Vascular graft infections  
Aortic thrombosis  
Thoracic outlet syndrome

### **Transplantation**

Immunosuppression

### **Thoracic Surgery**

Mediastinitis  
Chylothorax  
Lung cancer [Adenocarcinoma]  
Lung cancer [Undifferentiated carcinoma]  
Lung cancer [Small cell]  
Lung cancer [Large cell]  
Soft tissue sarcomas of chest wall  
Mediastinal tumors and cysts [Thymoma]  
Mediastinal tumors and cysts [Teratoma]  
Mediastinal tumors and cysts [Neurogenic tumor]

Mediastinal tumors and cysts [Enteric cyst]  
Mediastinal tumors and cysts [Pericardial cyst]  
Mediastinal tumors and cysts [Bronchogenic cyst]  
Superior vena cava syndrome  
Tracheoinnominate fistula  
Tracheoesophageal fistula  
Valvular heart disease  
Congestive heart failure  
Endocarditis  
Coronary artery disease  
Ventricular aneurysms  
Cardiomyopathy  
Pericarditis

### **Pediatric Surgery**

Gastroschisis  
Omphalocele  
Esophageal atresia  
Tracheoesophageal fistula  
Foreign bodies of the trachea/esophagus  
Congenital diaphragmatic hernia  
Duodenal atresia/stenosis  
Pancreas divisum  
Intestinal atresia and meconium ileus  
Imperforate anus  
Necrotizing enterocolitis  
Congenital aganglionsis (Hirschsprung's disease)  
Biliary atresia  
Choledochal cysts  
Cryptorchidism  
Wilms tumor  
Neuroblastoma

### **Plastic Surgery**

Aesthetic surgery [Abdomen]  
Aesthetic surgery [Breast]  
Postmastectomy reconstruction  
Abdominal wall reconstruction

### **Genitourinary**

Ureteral injury (iatrogenic)  
Bladder dysfunction [Neurogenic]  
Bladder dysfunction [Urinary incontinence]  
Obstructive uropathy  
Impotence  
Neoplasms [Bladder]  
Neoplasms [Ureter]  
Neoplasms [Renal cell carcinoma]  
Neoplasms [Prostate]  
Neoplasms [Testicle]  
Stone disease

### **Gynecology**

Endometriosis  
Ovarian neoplasms [Benign]  
Ovarian neoplasms [Malignant]  
Uterine neoplasms [Benign]  
Uterine neoplasms [Malignant]  
Cystocoele  
Rectocoele

### **Head and Neck**

Epistaxis  
Mucosal cancers of the oral cavity  
Mucosal cancers of the pharynx  
Mucosal cancers of the larynx  
Salivary gland tumors [Parotid gland]  
Salivary gland tumors [Submandibular gland]

### **Nervous System**

Management of chronic pain

# OPERATIONS/PROCEDURES BY LEVEL

## ESSENTIAL — COMMON

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### **Abdomen - General**

Exploratory laparotomy - open  
Exploratory laparotomy - laparoscopic

### **Abdomen - Hernia**

Repair inguinal/femoral hernia - open  
Repair inguinal/femoral hernia - laparoscopic  
Repair ventral hernia - open  
Repair ventral hernias - laparoscopic

### **Abdomen - Biliary**

Cholecystectomy with/without cholangiogram - open  
Cholecystectomy with/without cholangiogram - laparoscopic

### **Abdomen - Liver**

Needle/wedge biopsy - open  
Needle/wedge biopsy - laparoscopic

### **Abdomen - Spleen**

Splenectomy for disease - open  
Splenectomy for disease - laparoscopic

### **Alimentary Tract - Esophagus**

Laparoscopic antireflux procedure

### **Alimentary Tract - Stomach**

Percutaneous endoscopic gastrostomy  
Open gastrostomy

### **Alimentary Tract - Small Intestine**

Small bowel resection - open  
Adhesiolysis - open  
Adhesiolysis - laparoscopic  
Ileostomy  
Ileostomy closure  
Feeding jejunostomy - open  
Feeding jejunostomy - laparoscopic

### **Alimentary Tract - Large Intestine**

Appendectomy - open  
Appendectomy - laparoscopic  
Partial colectomy - open  
Partial colectomy - laparoscopic  
Colostomy  
Colostomy closure

### **Alimentary Tract - Anorectal**

Banding for internal hemorrhoids  
Hemorrhoidectomy  
Subcutaneous lateral internal sphincterotomy  
Drainage anorectal abscess  
Anal fistulotomy/seton placement

### **Endoscopy**

Esophagogastroduodenoscopy  
Proctoscopy  
Colonoscopy with or without biopsy/polypectomy  
Bronchoscopy  
Laryngoscopy

### **Breast**

Aspiration of breast cyst  
Duct excision  
Breast biopsy with or without needle localization  
Lumpectomy/quadrantectomy  
Simple mastectomy  
Skin-sparing mastectomy  
Axillary dissection  
Sentinel lymph node biopsy  
Modified radical mastectomy

### **Endocrine**

Partial or total thyroidectomy  
Parathyroidectomy

**Skin and Soft Tissue**

Biopsy (excisional and incisional) skin/soft tissue lesions  
Incision, drainage, debridement for soft tissue infections  
Pilonidal cystectomy

**Surgical Critical Care**

Arterial line placement  
Central venous line placement  
Swan Ganz catheter placement  
Endotracheal intubation

**Vascular - Venous**

Operation for varicose veins  
Sclerotherapy, peripheral vein  
Insertion vena caval filter

**Vascular - Access**

Percutaneous vascular access  
A-V graft/fistula  
Revision A-V access

**Thoracic Surgery**

Chest tube placement

**Pediatric Surgery**

Inguinal hernia repair  
Umbilical hernia repair

**Plastic Surgery**

Skin grafting

**Head and Neck**

Tracheostomy

**ESSENTIAL — UNCOMMON**

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**Abdomen - General**

Open drainage abdominal abscess

**Abdomen - Hernia**

Repair miscellaneous hernias

**Abdomen - Biliary**

Cholecystostomy  
Common bile duct exploration - open  
Choledochoscopy  
Choledochoenteric anastomosis  
Operation for gallbladder cancer (when found incidentally)  
Repair acute common bile duct injury

**Abdomen - Liver**

Drainage liver abscess

**Abdomen - Spleen**

Partial splenectomy/splenorrhaphy

**Alimentary Tract - Esophagus**

Open antireflux procedure  
Open repair of paraesophageal hernia  
Laparoscopic repair of paraesophageal hernia  
Repair/resection of perforated esophagus

**Alimentary Tract - Stomach**

Partial/total gastrectomy  
Repair duodenal perforation  
Truncal vagotomy and drainage

**Alimentary Tract - Small Intestine**

Superior mesenteric artery embolectomy/thrombectomy

**Alimentary Tract - Large Intestine**

Subtotal colectomy with ileorectal anastomosis/ileostomy

**Alimentary Tract - Anorectal**

Excision of anal cancer

**Breast**

Radical mastectomy

**Skin and Soft Tissue**

Wide local excision melanoma  
Sentinel lymph node biopsy for melanoma

**Trauma**

Management of esophageal trauma  
Management of gastric trauma  
Management of duodenal trauma  
Management of small bowel trauma  
Management of colon trauma  
Neck exploration for trauma  
Exploratory thoracotomy - open  
Exploratory laparotomy - open  
Exploratory laparotomy - laparoscopic  
Splenectomy/splenorrhaphy  
Repair hepatic lacerations  
Drainage pancreatic injury  
Debride/suture major wounds  
Repair/resection for kidney trauma  
Repair ureteral injury  
Repair bladder injury  
Repair of carotid artery injury  
Repair of abdominal aorta or vena cava injury  
Repair peripheral vessels  
Fasciotomy for injury  
Repair cardiac injury

**Vascular - Arterial Disease**

Embolectomy/thrombectomy artery  
Amputations [Above knee]  
Amputations [Below knee]  
Amputations [Toe]

**Thoracic Surgery**

Exploratory thoracotomy  
Pericardial window for drainage

**Pediatric Surgery**

Pyloromyotomy  
Emergency operation for malrotation  
Emergency operation for intussusception

**Genitourinary**

Hydrocelectomy  
Nephrectomy  
Orchiectomy  
Cystostomy  
Repair iatrogenic ureteral injury

**Gynecology**

Hysterectomy  
Salpingo-oophorectomy

**Head and Neck**

Cricothyroidotomy

**Nervous System**

Digital nerve block

**COMPLEX**

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**Abdomen - General**

Retroperitoneal lymph node dissection - open  
Retroperitoneal lymph node dissection - laparoscopic  
Operation for pseudomyxoma

**Abdomen - Hernia**

Component separation abdominal wall reconstruction

**Abdomen - Biliary**

Laparoscopic common bile duct exploration  
Operation for gallbladder cancer (planned)  
Operation for bile duct cancer  
Excision choledochal cyst  
Transduodenal sphincteroplasty

**Abdomen - Liver**

Segmentectomy/lobectomy - open  
Segmentectomy/lobectomy - laparoscopic  
Intraoperative ultrasound of liver  
Portal-systemic shunt

**Abdomen - Pancreas**

Pancreaticoduodenectomy  
Total pancreatectomy  
Ampullary resection for tumor  
Distal pancreatectomy  
Longitudinal pancreaticojejunostomy  
Frey procedure  
Beger procedure  
Intraoperative pancreatic ultrasound  
Pancreatic debridement for necrosis - open  
Pancreatic debridement for necrosis - laparoscopic/endoscopic  
Drainage pancreatic pseudocyst

**Alimentary Tract - Esophagus**

Esophagectomy, total  
Esophagogastrectomy  
Cricopharyngeal myotomy with excision Zenker's diverticulum  
Heller myotomy - open  
Heller myotomy - laparoscopic  
Collis gastroplasty

**Alimentary Tract - Stomach**

Operation for morbid obesity - open  
Operation for morbid obesity - laparoscopic  
Laparoscopic gastric resection  
Proximal gastric vagotomy  
Revisional procedures for postgastrectomy syndromes

**Alimentary Tract - Small Intestine**

Stricturoplasty for Crohn's disease

**Alimentary Tract - Large Intestine**

Total proctocolectomy and ileoanal pull-through

**Alimentary Tract - Anorectal**

Stapled hemorrhoidectomy  
Repair complex anorectal fistulae  
Operation for incontinence/constipation  
Transabdominal operation for rectal prolapse - open  
Transabdominal operation for rectal prolapse - laparoscopic  
Perineal operation for rectal prolapse  
Operations for rectal cancer [Transanal resection]  
Operations for rectal cancer [Abdominoperineal resection]  
Operations for rectal cancer [Pelvic exenteration]

**Endoscopy**

Mediastinoscopy  
Cystoscopy  
ERCP

**Breast**

Stereotactic breast biopsy

**Endocrine**

Adrenalectomy - open  
Adrenalectomy - laparoscopic

**Skin and Soft Tissue**

Iliioinguinal - femoral lymphadenectomy  
Major resection for soft tissue sarcoma

**Trauma**

Burn debridement or grafting  
Placement of intracranial pressure monitor  
Reduction and stabilization of maxillofacial fracture  
Repair of tendon or nerve  
Hepatic resection for injury  
Resection for pancreatic injury  
Closed reduction of fracture  
Open reduction of open/closed fracture  
Debridement and reduction of open fracture  
Repair of thoracic aorta, innominate, subclavian injury

**Vascular - Arterial Disease**

Arterial occlusive disease [Aorto-iliac/femoral bypass]  
Arterial occlusive disease [Ilio-iliac/femoral bypass]  
Arterial occlusive disease [Femoral-popliteal bypass]

Arterial occlusive disease [Profunda endarterectomy]  
Arterial occlusive disease [Infrapopliteal bypass]  
Arterial occlusive disease [Other endarterectomy]  
Arterial occlusive disease [Composite leg bypass graft]  
Arterial occlusive disease [Revise/re-do lower extremity bypass]  
Arterial occlusive disease [Arm bypass, endarterectomy, repair]  
Arterial occlusive disease [Celiac/SMA endarterectomy/bypass]  
Arterial occlusive disease [Renal endarterectomy/bypass]  
Arterial occlusive disease [Femoral-femoral bypass]  
Arterial occlusive disease [Axillo-femoral bypass]  
Arterial occlusive disease [Axillo-popliteal-tibial bypass]  
Amputation [Transmetatarsal]  
Amputation [Upper extremity]  
Amputation [Disarticulation]  
Arterial aneurysm [Infrarenal aortoiliac]  
Arterial aneurysm [Femoral aneurysm]  
Arterial aneurysm [Popliteal aneurysm]  
Arterial aneurysm [Suprarenal abdominal aortic]  
Arterial aneurysm [Thoracoabdominal]  
Arterial aneurysm [Thoracic aortic]  
Cerebrovascular disease [Carotid endarterectomy]  
Cerebrovascular disease [Reoperative carotid surgery]  
Cerebrovascular disease [Excise carotid body tumor]  
Cerebrovascular disease [Direct repair aortic arch branches]  
Cerebrovascular disease [Vertebral artery operation]  
Endovascular [Vascular ultrasound]  
Endovascular [Angioscopy]  
Endovascular [Balloon angioplasty]  
Endovascular [Transcatheter stent]  
Endovascular [Other endovascular graft]  
Endovascular [Endovascular repair aortic aneurysm]  
Endovascular [Endovascular repair other aneurysm]  
Endovascular [Thrombolysis]  
Miscellaneous [Pseudoaneurysm repair/injection]  
Miscellaneous [Explore post-op bleed, thrombosis, infection]  
Miscellaneous [Graft thrombectomy/revision]  
Miscellaneous [Excise infected vascular graft]  
Miscellaneous [Repair graft-enteric fistula]  
Miscellaneous [Sympathectomy]  
Miscellaneous [Harvest arm vein]  
Miscellaneous [Thoracic outlet decompression]

### **Vascular - Venous**

Venous embolectomy/thrombectomy  
Venous reconstruction  
Non-reconstructive venous ulcer operation  
Repair A-V malformation

### **Transplantation**

Donor nephrectomy  
Donor hepatectomy  
Renal transplant  
Renal-pancreas transplant  
En bloc abdominal organ retrieval  
Liver transplant  
Pancreas transplant

### **Thoracic Surgery**

Thoracoscopy with or without biopsy  
Thoracoscopic pleurodesis  
Thoracoscopic esophagomyotomy (Heller)  
Excision mediastinal tumor  
Transthoracic repair diaphragmatic hernia  
Open drainage of empyema  
Pneumonectomy  
Cardiac procedures  
Pericardiectomy  
Pacemaker insertion

### **Pediatric Surgery**

Excise branchial cleft anomaly



Excise thyroglossal duct cyst  
Orchiopexy  
Antireflux procedure - open  
Antireflux procedure - laparoscopic  
Repair intestinal atresia/stenosis  
Repair diaphragmatic hernia  
Repair omphalocele/gastroschisis  
Procedure for meconium ileus/necrotizing enterocolitis  
Excision Wilms tumor/neuroblastoma  
Operation for Hirschsprung's/imperforate anus  
Repair esophageal atresia/tracheoesophageal fistula  
Repair deformity chest wall

### **Plastic Surgery**

Revision of scars and resultant deformities  
Composite tissue transfer  
Major reconstructive procedures

### **Genitourinary**

Prostatectomy  
Ileal urinary conduit  
Cystectomy

### **Gynecology**

Caesarian section  
Repair cystocele  
Repair rectocele

### **Head and Neck**

Resection of lip/tongue lesions  
Parotidectomy  
Modified radical neck dissection

### **Nervous System**

Placement of indwelling epidural catheter  
Placement of nerve stimulator for chronic pain  
Celiac plexus blockade - percutaneous or endoscopic  
Thoracic splanchnicectomy  
Peripheral nerve block(s) other than digital

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