**Supplementary Table 1. Surgical Cohort Classification.**

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| **Transplant Surgery** |
| Kidney transplant |
| Liver transplant |
| Liver-small bowel transplant |
| Lung transplant, bilateral |
| Pancreas transplant |
| Small bowel transplant |
| Transplant, other |
| **Orthopedic surgery** |
| Amputation (non-traumatic) |
| Fracture-pathological, non-union, non-traumatic, for fractures due to trauma see Trauma |
| Hip replacement, total (non-traumatic) |
| Knee replacement, total (non-traumatic) |
| Orthopedic surgery, other |
| **Breast, soft-tissue and extremity surgery** |
| All Surgical Burn Patients |
| Cellulitis and localized soft tissue infections, surgery for |
| Cosmetic surgery (all) |
| Fistula/abscess, surgery for (not inflammatory bowel disease) |
| Graft for dialysis, insertion of |
| Grafting, skin (all) |
| Infection/abscess, other surgery for |
| Mastectomy(all) |
| Skin surgery, other |
| **Vascular surgery** |
| Anastomosis, vascular |
| Aneurysm repair, ventricular |
| Aneurysm, abdominal aortic |
| Aneurysm, abdominal aortic; with dissection |
| Aneurysm, abdominal aortic; with rupture |
| Aneurysm, thoracic aortic |
| Aneurysm, thoracic aortic; with dissection |
| Aneurysm, thoracic aortic; with rupture |
| Aneurysms, repair of other (except ventricular) |
| Arteriovenous malformation, surgery for |
| Complications of prev. peripheral vasc surgery |
| Endarterectomy (other vessels) |
| Endarterectomy, carotid |
| Graft, aorto-femoral bypass |
| Graft, aorto-iliac bypass |
| Graft, femoral-femoral bypass |
| Graft, femoral-popliteal bypass |
| Grafts, all other bypass (except renal) |
| Grafts, removal of infected vascular |
| Hematologic surgery, other |
| Shunt, peritoneal-venous; surgery for |
| Thrombectomy (with general anesthesia) |
| Thrombectomy (without general anesthesia) |
| Vascular surgery, other |
| Vena cava clipping |
| **Hepatobiliary Surgery** |
| Cancer-other GI tract, surgery for (i.e. hepatoma, gallbladder etc.) |
| Cholecystectomy/cholangitis, surgery for (gallbladder removal) |
| Kidney-pancreas transplant |
| Pancreatitis, surgery for |
| Shunt-portosystemic, surgery for |
| Whipple-surgery for pancreatic cancer |
| **Cardiac Surgery** |
| Ablation or mapping of cardiac conduction pathway |
| Aortic and Mitral valve replacement |
| Aortic valve replacement (isolated) |
| Atrial Septal Defect (ASD) Repair |
| CABG alone, coronary artery bypass grafting |
| CABG alone, redo |
| CABG redo with other operation |
| CABG redo with valve repair/replacement |
| CABG with aortic valve replacement |
| CABG with double valve repair/replacement |
| CABG with mitral valve repair |
| CABG with mitral valve replacement |
| CABG with other operation |
| CABG with pulmonic or tricuspid valve repair or replacement ONLY. |
| CABG, Minimally invasive; Mid-CABG |
| Cardiovascular surgery, other |
| Complications of previous open-heart surgery, surgery for |
| Congenital Defect Repair (Other) |
| Defibrillator, automatic implantable cardiac; insertion of |
| Embolectomy (with general anesthesia) |
| Mitral valve repair |
| Mitral valve replacement |
| Pericardial effusion/tamponade |
| Pericardiectomy (total/subtotal) |
| Pulmonary valve surgery |
| Tricuspid valve surgery |
| Tumor removal, intracardiac |
| Ventricular Septal Defect (VSD) Repair |
| **Thoracic Surgery** |
| Biopsy, open lung |
| Bullectomy |
| Head/chest trauma, surgery for |
| Respiratory surgery, other |
| Thoracotomy for benign tumor (i.e. mediastinal chest wall mass, thymectomy) |
| Thoracotomy for bronchopleural fistula |
| Thoracotomy for esophageal cancer |
| Thoracotomy for lung cancer |
| Thoracotomy for lung reduction |
| Thoracotomy for other malignancy in chest |
| Thoracotomy for other reasons |
| Thoracotomy for pleural disease |
| Thoracotomy for thoracic/respiratory infection |
| **Gastrointestinal surgery** |
| Appendectomy |
| Bleeding-lower GI, surgery for |
| Bleeding-other GI, surgery for |
| Bleeding-upper GI, surgery for |
| Bleeding-variceal, surgery for (excluding vascular shunting-see surgery for portosystemic shunt) |
| Cancer-colon/rectal, surgery for (including abdominoperineal resections) |
| Cancer-esophageal, surgery for (abdominal approach) |
| Cancer-small intestinal, surgery for |
| Cancer-stomach, surgery for |
| Complications of previous GI surgery; surgery for |
| Diverticular disease, surgery for |
| Esophageal surgery, other |
| GI Abscess/cyst-primary, surgery for (for complications of GI surgery see below) |
| GI Obstruction, surgery for (including lysis of adhesions) |
| GI Perforation/rupture, surgery for |
| GI surgery, other |
| GI Vascular ischemia, surgery for (resection) |
| Hernia-hiatal, esophageal surgery for |
| Herniorrhaphy |
| Inflammatory bowel disease, surgery for |
| Lymphoma, Non-Hodgkin’s; surgery for (including staging) |
| Metabolic/endocrine surgery, other |
| Obesity-morbid, surgery for |
| Obstruction due to neoplasm, surgery for; (with or without ileal conduit) |
| Obstruction/other, surgery for (with or without ileal conduit) |
| Pelvic relaxation (cystocele, rectocele, etc.) |
| Peritoneal lavage |
| Peritonitis, surgery for |
| Splenectomy |
| **Urological Surgery** |
| Bladder repair for perforation/rupture |
| Cystectomy for neoplasm |
| Exenteration, pelvic -male |
| Genitourinary surgery, other |
| Grafts, all renal bypass |
| Lymph node dissection, pelvic or retroperitoneal(male) |
| Nephrectomy (other reasons) |
| Nephrectomy for neoplasm |
| Obstruction due to nephrolithiasis, surgery for (with or without ileal conduit) |
| Orchiectomy with/without pelvic lymph node dissection |
| Prostatectomy, suprapubic; for cancer |
| Prostatectomy, suprapubic; for benign prostatic hypertrophy |
| TURP, transurethral prostate resection for benign prostatic hypertrophy |
| TURP, transurethral prostate resection for cancer |
| **Obstetrics and Gynecological Surgery** |
| Cesarean section |
| Cyst, ruptured ovarian |
| Dilatation (with general anesthesia) |
| Dilatation (without general anesthesia) |
| Ectopic pregnancy (all) |
| Exenteration, pelvic-female |
| Hysterectomy for cancer with or without lymph node dissection |
| Hysterectomy for other benign neoplasm/fibroids |
| Lymph node dissection, pelvic or retroperitoneal(female) |
| Oophorectomy with/without salpingectomy with/without lymph node dissection |
| **Trauma surgery** |
| Abdomen only trauma, surgery for |
| Abdomen/extremity trauma, surgery for |
| Abdomen/face trauma, surgery for |
| Abdomen/multiple trauma, surgery for |
| Abdomen/pelvis trauma, surgery for |
| Abdomen/spinal trauma, surgery for |
| Chest/abdomen trauma, surgery for |
| Chest/extremity trauma, surgery for |
| Chest/face trauma, surgery for |
| Chest/multiple trauma, surgery for |
| Chest/pelvis trauma, surgery for |
| Chest/spinal trauma, surgery for |
| Chest/thorax only trauma, surgery for |
| Extremity only trauma, surgery for |
| Extremity/face trauma, surgery for |
| Extremity/multiple trauma, surgery for |
| Face only trauma, surgery for |
| Face/multiple trauma, surgery for |
| Head (CNS) only trauma, surgery for |
| Head/abdomen trauma, surgery for |
| Head/extremity trauma, surgery for |
| Head/face trauma, surgery for |
| Head/multiple trauma, surgery for |
| Head/pelvis trauma, surgery for |
| Pelvis/extremity trauma, surgery for |
| Pelvis/face trauma, surgery for |
| Pelvis/hip only trauma, surgery for |
| Pelvis/multiple trauma, surgery for |
| Pelvis/spinal trauma, surgery for |
| Spinal cord only trauma, surgery for |
| Spinal/face trauma, surgery for |
| Spinal/multiple trauma, surgery for |
| Trauma surgery, other |
| **Neuro and Spine surgery** |
| Abscess/infection-cranial, surgery for |
| Biopsy, brain |
| Burr hole placement |
| Cerebrospinal fluid leak, surgery for |
| Complications of previous spinal cord surgery, surgery for |
| Cranial nerve, decompression/ligation |
| Cranioplasty and complications from previous craniotomies |
| Devices for spine fracture/dislocation |
| Fusion-spinal/Harrington rods |
| Head/spinal trauma, surgery for |
| Hematoma subdural, surgery for |
| Hematoma-epidural, surgery for |
| Hemorrhage/hematoma-intracranial, surgery for |
| Laminectomy/spinal cord decompression (excluding malignancies) |
| Neoplasm-cranial, surgery for (excluding transsphenoidal) |
| Neoplasm-spinal cord surgery or other related procedures |
| Neurologic surgery, other |
| Seizures-intractable, surgery for |
| Shunts and revisions |
| Spinal cord surgery, other |
| Spinal/extremity trauma, surgery for |
| Subarachnoid hemorrhage/intracranial aneurysm, surgery for |
| Transsphenoidal surgery |
| Ventriculostomy |
| **ENT Surgery** |
| Apnea-sleep; surgery for (i.e. UPPP -uvulopalatopharyngoplasty) |
| Cancer oral/sinus, surgery for |
| Cancer-laryngeal/tracheal, surgery for |
| Facial surgery (if related to trauma, see Trauma) |
| Parathyroidectomy |
| Thyroidectomy |
| Thyroidectomy and parathyroidectomy |
| Tracheostomy |